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CHAIRMAN'S TASK FORCE ON SUSTAINABLE DEVELOPMENT
DEVELOPING AN IMPLEMENTATION STRATEGY

IMPLEMENTATION TEAM REPORTS

Prepared for

The Regional Chairman's Task Force
on Sustainable Development

The Regional Municipality of Hamilton-Wentworth

July, 1992



Forward

The reports contained in this volume were prepared by implementation teams established by the Chairman's Task Force on Sustainable Development, in the Spring of 1992. The purpose of the implementation teams was to look into eight topic areas and recommend the appropriate actions for achieving the community envisioned in "VISION 2020". These reports were presented to the Task Force on July 15, 1992.

In September, 1992 the Task Force will host a community workshop where citizens will have the opportunity to comment on the implementation team reports and provide their suggestions for implementation. The implementation reports and the citizen input from the community workshop, will be used by the Task Force as the foundation for development of a comprehensive implementation strategy to be presented to Regional Council in December, 1992.


The implementation teams were made up of people from all walks of life in Hamilton-Wentworth, who volunteered their time to contribute to creating a future based on the principles of sustainable development. The implementation team membership included the following individuals:

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A Report
of
The Implementation Team
on
Agriculture, Rural Settlement &
the Rural Economy

Prepared for
The Regional Chairman's Task Force on
Sustainable Development

July 15, 1992

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Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the eight reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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1.0 INTRODUCTION

This paper addresses Agriculture, Rural Settlement, Rural Economy and implementation of the best measures for accomplishing this portion of the Vision 2020 statement. As stated within Vision 2020:

"Agriculture, now considered a strategic community finite resource is a vibrant part of the regional economy, which makes a valued contribution to our overall quality of life. The farming community is economically viable and environmentally sensitive, capable of supporting family farming operations that are competitive internationally. The farming community is in harmony with neighbouring urban areas using clean, organic urban waste to enhance the soil. Prime agricultural land is recognized by all citizens as irreplaceable and strong policies and programs ensure its continued use for food production. Moreover, agricultural soils are continuously improved through the widespread use of sustainable farm practices. Vacation farming ensures and enhanced profile for local agriculture."

Included in this paper are key concepts concerning the implementation of the agricultural/rural component of the Vision statement. These concepts are outlined in the process used by the Implementation Team, whereby goals and strategies were established from which recommended actions were derived. The following areas were addressed by the group.

- Provide Rural Land Use Options
- Enhance Farm Viability
- Establish Sustainable Agricultural Practices
- Direct and Respond to Consumer Trends
- Promote and Provide Policy Initiatives

These objectives were subdivided into a set of strategies designed to:

- Preserve Prime Agricultural Lands
- Focus Residential Development in Existing Urban and Rural Settlements
- Direct Non-Agricultural Development away from Prime Agricultural Lands
- Outline Economic Options which provide Stability in Agriculture
- Provide Educational Opportunities to Farmers Re: current problems, business management and ventures
- Prevent Soil Degradation
- Promote Sustainable/Ecological Farming Techniques/Practices
- Public Education re: Importance of Farming
- Enhance the Opportunities for Consumption of Local Farm Products, including Healthier/Organic Foods
- Local input into Rural/Agricultural Decision Making Process
- Input into Provincial Food Land Policies

Finally individual actions or directions needed to implement the objectives and strategies are outlined in the Recommendations Section, and on Figure 3.

2.0 AGRICULTURE AND THE RURAL COMMUNITY IN HAMILTON-WENTWORTH

While Hamilton-Wentworth is an integral part of the urban area bordering the south-west corner of Lake Ontario, it also has an extensive agricultural land area based on favourable climatic and soil conditions. The moderating effects of the lake are beneficial to the crops being grown in this region and are specifically essential to the fruit production operations located north and south of the Niagara Escarpment. Soil is the other critical element in food production and Hamilton-Wentworth contains extensive areas of high quality agricultural soils.

As is the case elsewhere in the Province and Country the farming community in Hamilton-Wentworth is in difficulty. This crisis situation is accentuated because of the importance of agriculture and the rural economy to the economic stability of this Region. Statistics regarding agriculture in Hamilton-Wentworth are shown on Figure 1.

The rural landscape does not consist exclusively of agricultural uses. Increasingly, non-agricultural uses are competing for the limited amount of agricultural land remaining in this Province and Region. Between 1971 and 1986 in Ontario, the amount of farmland has decreased by 14% from 15.9 million acres (D. Douglas, University of Guelph). Today in Hamilton-Wentworth, farms include 145,000 acres of land, out of which about 105,000 acres are currently under production (Figure 1). The percentage loss of farmland between 1981 and 1986 amounted to -8.48% (State of the Environment Report, H-W, 1990).

The extent of the damage done to farmland and farming in general cannot be assessed strictly in terms of lost acreage of farmland. The cumulative and indirect impacts of non-agricultural uses in the rural area greatly intensify the effects. However, the source of these impacts can be identified. The list of competing rural land uses would include rural residential development (by severance, settlement development or estate subdivision) industrial/commercial uses, aggregates industry, recreational activities such as golf courses, parks, and clubs, utility/transportation corridors, wildlife habitats, wetlands, and other non-farm operations.

A visual illustration of the amount of land in this Region which is subject to agricultural constraints is contained in Figure 2. The map of the Region shows the agricultural lands (unshaded areas) that are still available for farming and those lands which have limited or no agricultural capability. Additional lands are lost from farming within the agricultural area, due to residential strip development along the main roads. These losses are the result of the direct removal of land for houses as well as the indirect impacts on agriculture from the non-farm inhabitants. Complaints about dust, odour, timing of farming activities, application of the Agricultural Code of Practice, increased land costs and so on, are only a few examples of the extended negative influence rural residential uses have on agricultural operations. Agricultural lands now only constitute approximately 52% of the Region and the amount currently under production involves considerably less land area.

Figure 1

AGRICULTURE IN HAMILTON-WENTWORTH = FACT SHEET =

1. Hamilton-Wentworth's farm cash receipts totalled **\$113.8 million** (1989) (this is 2.01% of Ontario's farm cash receipts).
2. Annual farm expenditures in Hamilton-Wentworth **\$94 million**.
3. The capital value of farms (land, buildings, equipment, livestock) in Hamilton-Wentworth is **\$476 million** (1989).
4. There are **275,022** acres of land in the Region of Hamilton-Wentworth. Approximately **52%** or **145,000** acres are on farms of which **104,972** acres are in production (1989) major production areas include:

27,000 acres hay	7,000 acres vegetables
24,000 acres grain corn	4,200 acres fruit
11,000 acres winter wheat	

(In 1956 there were **170,000** acres of farmland)

5. Percentage of cash receipts for Hamilton-Wentworth by various agricultural commodities:

24.9% floriculture/nursery	5.7% cattle and calves
21.8% poultry	5.6% fruit
11.7% dairy	5.3% hogs
11.5% vegetables	13.5% other

Greenhouse production involves over 2 million sq. feet with nearly 1/2 of this area devoted to mushroom operations.

Various forms of specialized agriculture such as hydroponic vegetable growing, bee keepers, horse breeders, rabbit farms and intensive greenhouse operations have been established in the region.

6. Census Population (1986)

farm	4,235
rural non-farm	33,265
total regional population	423,400

Number of census farms in Hamilton-Wentworth 1,393

Number reporting off farm work 614

% farmland rented by farmer 50%

7. Hamilton Farmers Market - 150 years old - 30,000 - 40,000 customers weekly

total # stall holders 85

selling local produce - summer only 53

selling local produce - all year 32

of stall holders who reside in Hamilton-Wentworth 90%

8. There are 60 food and beverage companies in Hamilton-Wentworth (1991)

30 - cereal/baked goods

11 - meat/fish

4 - fruit and vegetables

4 - confection and sugar

3 - dairy

8 - other

PRIME AGRICULTURAL LAND IN HAMILTON - WENTWORTH



LEGEND



AGRICULTURAL LANDS



LANDS WITH AGRICULTURAL CONSTRAINTS

(Lands affected by Urban Areas, E. S. A.'s Mineral Aggregates, Rural Settlements, Reservoirs, Airports, Golf Courses, and Soil Classes 5, 6, 7, 0)

Along most of the main roads in the agricultural/rural area, strip residential development has occurred. This type of development further reduces the amount of useable land for agriculture.

This map is generalized and there will be numerous situations where existing farms or lands capable of sustaining agricultural operations are located within the Agricultural Constraint Area.

3.0 PROBLEMS IN AGRICULTURE AND THE RURAL AREA

Agricultural sustainability may be the key element in the ability of future generations to feed themselves. Unfortunately a number of issues directly and indirectly related to the replenishment of agriculture are causing problems in today's farming communities. Some of these key issues involve:

- loss of prime agricultural land
- limited farm viability
- attitudes of and towards farmers
- farm productivity vs environmental concerns
- uncertainties for long term agriculture
- increased rural land use competition/conflicts
- contamination of water supplies
- soil degradation through erosion or over use

All of these matters have been addressed in Discussion Paper #6 - Food, Rural Land Use and the Agricultural Economy, and have been reassessed by the Implementation Team in preparing actions and recommendations to overcome these problems. However there are a few items which need to be identified and/or expanded.

Attitudes towards farmers significantly affect the way people react to rural issues. Many of these attitudes are reactionary. Until the mid-1900's, the farm community held the reigns of power in Canadian politics. Now the farming community has been disenfranchised as a result of the changing demographics of the Region, the Province, and the Country. Between 1981 and 1986, the farm population in Hamilton-Wentworth decreased by 14.27%. And in the 1989 census only 603 Hamilton-Wentworth farms reported sales (not net income!) greater than \$25,000. As a result, the farm community does not receive the attention it deserves. It is essential to recognize the special importance of this "minority group". The family farm is an "endangered species". We must seriously anticipate farm needs, recognize and fairly address the socio-economic situation since they are continually in conflict with the desires of other, more "significant" (politically and economically) groups.

The issue of land is also a vital aspect of rural life. Who really owns it, and who decides what can be done on or with it? Is the concept of "highest and best use" still valid within a framework of sustainable development? Nowhere are urban and rural realities more sharply differentiated than in attitudes toward land. In Hamilton-Wentworth, most of the land inventory is under extreme pressure to be redeveloped for greater financial gain. Current legislation (through official plans) attempts to preserve the best farm land for agriculture but the interpretation and implementation of the policies in these documents can be ineffective. Ironically, a good deal of opposition to foodland preservation schemes comes from farmers themselves - especially those who now find themselves in the urban fringe and being tempted by the new urban values being placed on their lands. Where urban and rural forces meet, attitudes toward land, and ethical values, evolve within each stakeholder group. At the same time governments need to recognize equity losses a farmer may suffer as a result of foodland preservation policies, and provide compensation.

The economic realities that currently face the farm community may comprise the biggest roadblock to achieving Vision 2020. Financial stresses are not conducive to innovation and/or acceptance of change. Although sustainable farm practices have already been endorsed by the farming community, and a plan of action has been published under the title "Our Farm Environmental Agenda", struggling farmers may be reluctant to invest in these concepts when the reality is "SURVIVAL". If the farmer can't make a good living there is little doubt that there will be no farm community in the Region of Hamilton-Wentworth by the year 2020.

A final roadblock to achieving VISION 2020 may possibly be the easiest hurdle to deal with. A detailed, site and sector-specific data base for the agricultural/rural community is necessary in order to quantitatively identify both the problems and the solutions. A foundation of up to date information will enable appropriate rural studies which will provide future decision makers the opportunity to reach sound, factually based decisions regarding the rural/agricultural community.

4.0 RECOMMENDATIONS

The key elements in improving the agricultural/rural situation are:

- viability;
- stability;
- certainty; and,
- sustainability.

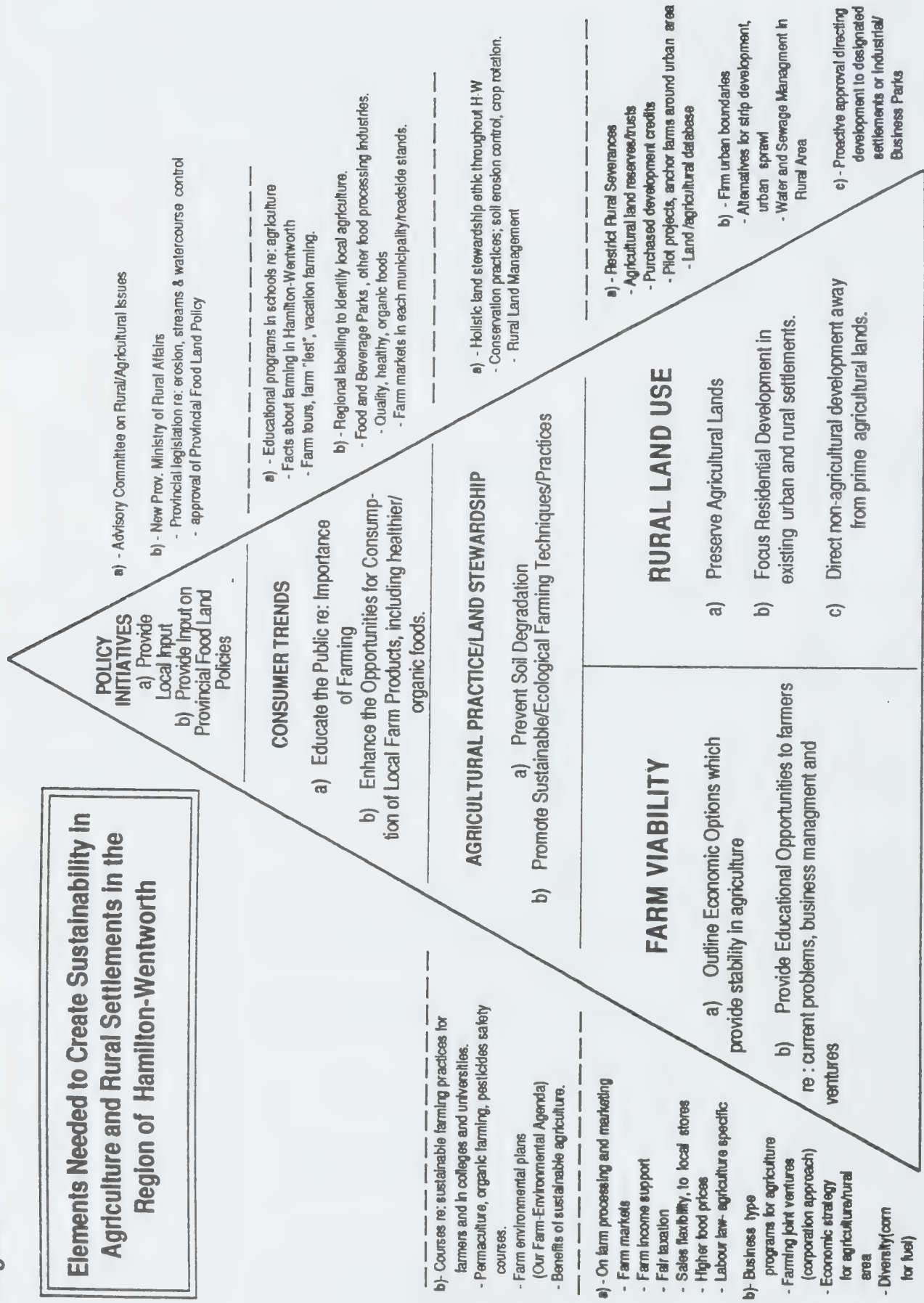
If farming is made viable, the farmer will be less anxious to sell his/her property and less likely to require a severance to keep the farm going. With viability comes stability throughout the rural area and the financial means to carry out sustainable farming practices. These issues are all related and form part of the complex problems in the rural/agricultural community. Protection of agricultural lands through land use initiatives and regulation alone is not a complete solution. Land use controls must be implemented in concert with economic and environmental measures to provide a comprehensive resolution of agricultural problems.

Figure 3 is the Implementation Team's plan for creating sustainability in agriculture, and the rural community. Sustainability and stability are built upon a solid foundation based on the two cornerstones of Rural Land Use and Farm Viability. These elements are solidified and enhanced through Agricultural Practices/Land Stewardship, Consumer Trends and finally Policy Initiatives.

The remainder of this section expands upon the ideas put forth in Figure 3 and provides details regarding responsibilities and implementation.

Figure 3

Elements Needed to Create Sustainability in Agriculture and Rural Settlements in the Region of Hamilton-Wentworth



4.1 Rural Land Use

The preservation of an agricultural land base is fundamental to solving any problems in agriculture. It must be recognized that land is a vital resource which provides the basic component on which future agriculture must rely. The realization of the importance of this resource must be augmented by the concept that preservation of agricultural land is for the mutual benefit of us all and that with the acceptance of this principle, goes the associated responsibilities of commitment and cost. Society must be willing to pay for agricultural land stewardship and support the "agriculture first" philosophy. This will mean elimination of the "highest and best use" mentality and conversion to the belief that agriculture is the best use in the rural area.

It is the Implementation Team's recommendation that in order to implement these strategies and create sustainability in agriculture and the rural community in Hamilton-Wentworth the following actions need to be undertaken:

a) Preserve Agricultural Lands

I Restrict Rural Severances

The greatest pressures on farm land is from residential uses and too a great degree from scattered severances in the rural area.

- Consequently all severances on agricultural lands should be phased out by 2020 and a further target of the year 2000 set for the establishment of a "transition period" to accommodate the change. The transition period will be required to accommodate those farmers planning for their future under existing policies.
- Eliminate severances for retirement and sons and daughters but provide alternatives through retirement communities, transferable development credits or development in non-agricultural area. The emphasis in these cases should be on the long term use of the land for agriculture.

II Agricultural Land Preservation/Trusts

There is a desperate need to provide "certainty and stability" in the Rural Area and this is possible through:

- Designation of Prime Agricultural Lands (soil classes 1, 2, 3 & 4) in Official Plans as Agricultural Land Reserves and the adoption of policies for protection from non-agricultural intrusions.
- Development of a system to provide for land management by the farmer, who would retain the land in agriculture.

III Purchased Development Credits

- Establish a system which provides alternatives to rural residential development whereby farmers can sell development credits redeemable in designated receiving areas (urban/rural settlements), either for the development of single lots or by increase in density.

IV Pilot Projects/Anchor Farms around Urban Areas

- Establish Anchor farms on publicly owned lands (or other available private sites) around urban boundaries. These would consist of a series of farms set up under long term lease arrangements with a farmer to live on and farm the land, creating a ring of viable farm operations around the urban fringe to provide a sense of stability in the rural area.

V Land/Agricultural Database

- Develop an extensive information source for future decision making is needed, containing data on ownership, crops, soil capabilities, development activities and so on. This would be a vital tool in assessing agriculture and rural development proposals. This information system should be established at the Regional or Provincial level yet accessible to both and other related agencies (Federation of Agriculture, etc).

b) Focus Residential Development in Existing Urban and Rural Settlements

I Firm Urban Boundaries

- Commitments are needed from the Province, Region and Area Municipalities to establish urban boundaries which will not change within the time frame of their approved planning documents (Official Plans). Criteria should be included in the Official Plans to evaluate any expansion proposals. In addition, rural settlements should be limited to existing designated areas.

II Alternatives for Strip Development and Urban Sprawl

- Current official plans contain numerous policies to control development and urban sprawl but strict implementation of the policies has been lax. The Region and Area Municipalities must strongly support compact urban form and intensification within existing designated settlements, and reinforce their commitment to directing development to existing rural settlements.

III Water, Sewage Management in Rural Areas

Protection of water recharge areas, and improvements in installation, and maintenance of septic systems are necessary to preserve and enhance the quality and quantity of rural water supplies which are vital environmental components upon which agriculture is based. Directions to municipalities, conservation authorities and the related agencies are necessary to improve the situation. Municipalities and Conservation Authorities must provide protection for water recharge areas in their plans, and regulations. The Health Services Department must investigate alternative systems to accommodate rural development.

c) **Direct non-agricultural development away from agricultural lands.**

I Proactive Approval Directing Development to Designated Settlements or Industrial/Business Parks

- Prevent rural land use conflicts between farming operations and non-agricultural uses. There must be a change in mind set to "think agriculture first" and a greater emphasis on long term farming in decision making processes.
- Strong policies at the Provincial, Regional and Area Municipal levels are essential to direct future development away from agricultural lands.

4.2 Farm Viability

a) **Outline Economic Options which provide stability in agriculture**

I On Farm Processing and Marketing

- Revise Official Plans and Zoning By-laws to provide greater flexibility in allowing roadside produce stands. These stands will allow the farmer to sell directly to the consumer and add revenue to the farm operation.
- Allow the processing of farm products to occur on-farm as permitted uses within the context of municipal planning documents. In addition, home occupations and other similar uses, on a "limited" scale should be permitted. The Region and local municipalities should be directed to revise the appropriate documents to allow the above-noted items.

II Farm Markets

- Permit the sale of farm produce directly to the public as a means of improving farm viability in many sectors of agriculture. Some farm markets do exist (most notable is the Hamilton Farmers Market), but there is a need for a major farm market (selling mostly local produce)

in each area municipality. The Regional Economic Development Department in concert with the Federation of Agriculture, Area Municipalities and local farmer organizations should investigate the establishment of these markets throughout the Region.

III Farm Income Support

- Restructure the farm support system. The existing system of farm support is not sustainable, is viewed by the public as "hand outs" and is not the best system for the farmer. It is based on paying the farmer for production or gaps in production when it would be more beneficial to pay the farmer to be a manager of the land or to practice conservation measures. When farming becomes viable the support system can be eliminated.

IV Fair Taxation

- Support Federation of Agriculture in its efforts on tax restructuring.
- Establish a relationship between the land and rural property and tax according to the "benefit of taxation" principle. Tax only residential component of farm (no tax on agricultural land).
- The current method of property assessment creates an unfair tax burden on farmers. Revise assessment so that farmland is assessed only as "farmland"

V Sales Flexibility (to local stores)

- Establish more flexible food purchasing and inspection practices are needed to allow local farmers to sell to food stores. Presently, there are restrictions which limit these opportunities. The Federation of Agriculture in conjunction with the Region (Economic Development Department) should investigate the opportunities to expand the local market for farm produce. In addition, area grocery managers should be encouraged to buy local produce.

VI Higher Food Prices

- Promote changes in consumer attitudes to accept higher food prices for high quality foods, to reflect a more realistic relationship between the costs and returns in farming.

VII Labour Law (agriculture specific)

- Continue to base specific sections in labour laws on the specific needs, and requirements of agricultural operations. Currently exemptions permit flexibility to permit farmers to hire help. These types of exemptions must be retained.

b) **Provide Education Opportunities to farmers re: current problems, business management and ventures**

I Business Type Programs for Agriculture

- Establish a Farm Advisory Group to work with the Ontario Ministry of Agriculture and Food (O.M.A.F.) and the Federation of Agriculture to adapt business processes and practices to agriculture.
- Create appropriate links to the business community (through Economic Development) for advertising, consulting, operation of small business (i.e. farm) in co-operation with O.M.A.F. to:
 - promote co-operation among farmers
 - enhance the profile of farming

II Farming Joint Ventures (corporation approach)

- Provide guidelines for cooperative ventures among farmers. Traditionally farmers have been independent and protected their way of life and their freedom of choice. However, the crisis in agriculture makes it desirable to move toward co-operation among farmers to join together in partnerships where larger farm operations provide opportunities for economies of scale, diversification, sustainability and implementation of conservation practices. These ventures could facilitate joint equipment purchases, and/or combined on-farm processing operations, and could be handled through the Regional Economic Development Department with assistance from the Federation of Agriculture.

III Economic Strategy for Agriculture and the Rural Area

- Establish with the Regional Economics Strategy a specific section on Agriculture which outlines actions and programs to enhance farm/agricultural viability, and which will be reflected in the budget, marketing plans and staffing allocations.

- Involve the Regional Economic Development Department in instructing, assisting, guiding farmers on how to manage, sell, promote and market their operations and products.
- Update farm management and practice skills of farmers through extension courses organized by the Region, business community or farm organizations.
- Define the role of rural industrial/commercial and other economic land uses in the rural area and provide appropriate policy directions in the strategy or official plans.

IV Diversity (corn for fuel)

- The use of corn and other agricultural products for the production of fuel should be evaluated and if appropriate supported and promoted by the Province and Region.
- Change overs to different crops or a variety of crops to provide greater flexibility for the individual farms should be encouraged by the various farm organizations.

4.3 Agricultural Practice/Land Stewardship:

a) Prevent Soil Degradation

I Holistic Land Stewardship Ethic throughout Hamilton-Wentworth

- Require all farm operations to follow conservation/sustainable farming practices.
- Large farm operations (usually on leased land) tend to overwork the land in an attempt to maximize profits and they also ruin the "farming tradition" in an area. The major farm operations should be required to follow conservation/sustainable farming practices.
- Leased land is less likely to be in continual agricultural production. Unfortunately much of the rural land in Hamilton-Wentworth is owned by numbered companies or absentee owners. If the ownership pattern cannot be reversed, the farmers leasing the land and the absentee owners must be made aware of the need to implement conservation measures and must assume greater responsibility for the proper management of this vital natural resource.

II Conservation Practices; Soil Erosion Control, Crop Rotation

- Promote conservation practices - crop rotation, tillage reduction, streambank stabilization, tree planting (windbreaks, hedgerows) and rehabilitation of natural water courses by requesting O.M.A.F. and the Federation of Agriculture to expand their existing conservation courses and programs. Suggest the Province divert support funds into paying farmers who implement conservation practices on their farms. One example would be increased funding for the land stewardship program.

III Rural Land Management: Natural and Chemical Inputs

- Phase out the use of road salt on all Regional and Local roads in the rural area of Hamilton-Wentworth by the year 2000.
- Support the Provincial commitment to reduced chemical use on farmlands, and all other rural lands.
- Wherever possible, request that farm organizations promote among their members the practice of crop rotation and the return of organic matter to the soil. Also request that O.M.A.F. investigate the possibilities for using urban waste (treated sewage, compost material and so on) to rejuvenate agricultural soils.
- Promote, through public education, the use of natural landscaping techniques, composters, water conservation and organic garden plots among all residents (farm and non-farm) in the rural area.

b) Promote Sustainable/Ecological Farming Techniques/Practices

I Courses re: Sustainable Farming Practices for Farmers and in Colleges and Universities

- Lobby the University of Guelph and other agricultural education facilities to further expand their curriculum to include courses on sustainable farming practices
- Request O.M.A.F. to continue to expand programs/courses on conservation and sustainable practices.

II Permaculture, Organic Farming, Pesticides Safety Courses

- Request O.M.A.F. and farm organizations to promote alternative forms of agriculture (permaculture/organic farming); also continue and expand the pesticides safety courses to involve all farmers.

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III Farm Environmental Plans as outlined in the document entitled "Our Farm-Environmental Agenda"

- Support the concept of farm environmental plans. The significance of this type of proposal to sustainable farming is obvious but in order to be workable emphasis must be placed on the specific nature of farm operations so that "tailor-made" solutions will become the norm, instead of standard across the board approaches. Also the "farmer helping farmer" aspect contained in the report is seen as a critical element by the Implementation Team. The Province should assist in the implementation of this concept but there must also be input from the Federation of Agriculture and other associated farm organizations.

IV Benefits of Sustainable Agriculture

- Provide the farmer with clear information as to how sustainable agriculture will benefit the farming operations and the farm community as a whole. This could be accomplished by a pamphlet of information from O.M.A.F., Federation of Agriculture, or other farm groups.

4.4 Consumer Trends

a) **Educate the Public re: Importance of Farming**

I Educational Programs in Schools re: Agriculture

- School Boards at all levels should investigate the creation or expansion of existing curriculum courses on agriculture, farming or food production.
- Expand the existing program of school tours to farms and food processing operations in the Region.

II Facts about Farming in Hamilton-Wentworth is a vital part of public awareness/involvement in agriculture.

- Explore all options for publication of data, information and important events in the rural community. A few suggestions include:
 - Economic Development Department publications with regular articles/features highlighting the agricultural sector;
 - Regional publication listing the "pick your own" farm operations, published by the Province, Region or local farm organizations;
 - Calendars of local agricultural activities and news;
 - Periodic focus on agriculture and the rural community in the Hamilton Spectator and area newspapers.

III Farm Tours, Farm "Fest", Vacation Farming

- The Region should promote and establish farm tours and vacation opportunities on farms in the rural area as education and revenue generating ventures through Regional Economic Development, school boards, Federation of Agriculture and other groups.
- The Region and local farm organizations should promote local farming through an annual "farm fest" celebration in the region. This may involve expansion or additional support or attractions/exhibits at the local fall fairs, peach festival, wine (grape) fairs, or a new separate, central exhibition. Economic Development or private groups may be interested in staging this type of event.

b) Enhance the Opportunities for Consumption of Local Farm Products, including healthier/organic foods

I Labelling

- Implement labelling of local/regional/provincial or national produce by the Province to encourage purchasing of goods which will benefit "our" agricultural economy.
- Promote the establishment of a Local Produce Section(s) in participating supermarkets in the Region, where consumers have the option to buy clearly identified local produce.

II Food and Beverage Parks, other food processing industries

- The Region must promote the establishment of food processing operations in the region which use local produce.

III Quality, Healthy, Organic Foods

- Emphasize the excellent quality of local produce; freshness, reduced chemical use, and availability.
- Since consumer preferences appear to be changing, then farmer's attitudes toward organic foods and the methods of producing healthier foods will have to change.
- The Province must realize the importance of relating healthier foods and better eating habits to improved overall health and lower health care costs. Promotional programs on these items need to be created, with the Province playing a lead role.

IV Farm Markets in Each Municipality/Roadside Stands

- Reinforce these issues as addressed earlier in the report under recommendations on viability. It is important to re-emphasize their significance as an opportunity for the residents of this Region to purchase local farm products. The economic benefits realized from these situations are augmented by increased public awareness about agriculture through direct contact between producer and consumer.

4.5 Policy Initiatives

a) Provide Local Input

I Advisory Committee on Rural/Agricultural Issues

- Establish an Agricultural Advisory Committee(s) (at the Regional and/or Area Municipal level) consisting of farmers, agricultural experts and rural residents to assess and advise Regional or Local Councils on rural/agricultural issues. The basis for such a committee could be incorporated into an official plan and the details regarding responsibilities, membership and reporting mechanisms could be contained in a separate procedural document.

b) Provide Input on Provincial Food Land Policies

I New Provincial Ministry of Rural Affairs

- Create a new Ministry of Rural Affairs to oversee the rural areas of the Province. This Ministry would bring together elements from O.M.A.F., M.O.E., M.N.R., and other agencies into one body which would result in a single functioning and commenting agency capable of providing expert analysis on rural issues and proposals. This is not only a practical and efficient means of approaching rural/agricultural issues, but also a way of increasing the profile of agriculture!

II Provincial Legislation

- Direct Provincial policies at individual land owners to implement erosion, streams and watercourse controls.
- Educate the public and farmers in conservation methods and where necessary provide compensation to the farmers.

III Approval of Provincial Food Land Policy

- Ontario must have a new Provincial Food Land Policy that is approved by the Government and implemented through Official Plans and other Planning documents.
- It is of utmost importance that these policies have the support of farmers and there must be commitment from the Province and Provincial Ministries to support and implement the policies.

2

This entire report and many current policies and actions from all levels of Government are directed toward protecting agricultural land, and the rural community. However, stronger commitments from all participants (the public, farmers, elected officials and government employees such as planners, engineers, agricultural representatives) are necessary to ensure the future of agriculture in this Region, Province and Country.

A wide range of commitments are required. Successful policy implementation can only be accomplished through a restructuring of priorities which place greater emphasis on agricultural/rural issues. This higher level, priority status must also be supported by significant funding and budgetary considerations. The directions, programs and promotions recommended in this report will require substantial sums of money. While some new sources of funds may be needed it may be possible to restructure or re-prioritize existing budgets at all government levels, to finance the approaches suggested by this Implementation Team. The possibility also exists that private funds could be attracted for investments in the future agricultural economy of the rural area.

The struggle to save agriculture and the rural way of life is certainly a worthwhile cause and definitely not a lost cause. Vision 2020 foresees the farming community as economically viable and a valued contributor to the Region's overall quality of life. The members of the Implementation Team support this concept for the future of agriculture and challenge the Task Force on Sustainable Development, and Local, Regional, Provincial and Federal Governments to make this vision become reality.

A Report
of
The Implementation Team
on
Economy, Livelihood and
Workforce Education

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

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Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies, or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the seven reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

1.0 Introduction

This report of the Economy, Livelihood and Workforce Education Implementation Team of the Chairman's Task Force on Sustainable Development describes the desired state with respect to economy, livelihood and workforce education for Hamilton-Wentworth along with initiatives to achieve that desired state. An implementation strategy consisting of goals, strategies and actions is presented.

1.1 Vision 2020

The following extract from "VISION 2020" applies directly to the work of the Economy, Livelihood and Workforce Education team. Note that this is a description of the ideal future state, not a description of the present state.

"A stable, flexible economy is achieved through the effective use and development of all community resources. This means not only land, capital equipment, and community services, but the continued improvement and retention of a skilled workforce. Economic strategies, set through a cooperative process involving citizens, business, government, education and labour, include effective job-training and re-training programmes. All people can find employment opportunities in the region.

The region is home to numerous firms that carry out research, development and manufacturing in sustainable economic sectors. Successful companies are characterized by high production quality and worker productivity, and innovative employment practices such as on-site daycare (child care), job sharing, work-at-home arrangements, and cooperative, community-based job creation. These companies provide a solid tax base for the region. Business and industry actively participate with government in advanced skill training programmes, including programmes designed to enhance employment accessibility for people with disabilities. Firms are at the forefront of energy efficiency; and pollution control and prevention; and material re-use and recycling.

Hamilton-Wentworth is now home to a whole new economic sector based on its natural resources. Hamilton Harbour is a base for nature-oriented tourism and recreation, that includes the Niagara Escarpment, waterfalls and Carolinian forest areas. The harbour is a vibrant centrepiece for the community and is accessible, clean, and humming with diversity. Recreation co-exists with use of the harbour as an essential marine transportation link.

Agriculture, now considered a strategic community resource, is a vibrant part of the regional economy, which makes a valued contribution to our overall quality of life. The farming community is economically viable and environmentally sensitive,

capable of supporting family farming operations that are competitive internationally. The farming community is in harmony with neighbouring urban areas using clean, organic urban waste to enhance the soil. Prime agricultural land is recognized by all citizens as irreplaceable and strong policies and programs ensure its continued use for food production. Moreover, agricultural soils are continuously improved through the widespread use of sustainable farm practices. Vacation farming ensures an enhanced profile for local agriculture."

1.2 Economy, Livelihood and Workforce Education Team Vision

The Economy, Livelihood and Workforce Education Team further refined this statement into the following:

"Working together we will build a revitalized, vibrant community based on sustainable development principles. Together we will create adequate income opportunities for all citizens. Everyone will have access to effective education and training enabling them to lead fulfilling lives at work and in the community."

1.3 Guiding Principles

In preparing this report, the implementation team was guided by the following principles which emerged from discussion at the meetings:

- As a society we have to learn to make better use of the resources we have, rather than treat all resources as disposable;
- Growth is desirable provided that it is not at the expense of future generations or the natural environment. Examples are personal and social growth or economic growth based on environmental clean up practices;
- Impacts on the natural environment caused by business must be included in all decision making with a view to reducing impacts to a level that it is not at the expense of future generations or the natural environment;
- Success requires cooperation among all parties in the community; and
- People are the key to future prosperity.

2.0 Economy, Livelihood and Workforce Education in Hamilton-Wentworth

This chapter describes the current state of the economy along with an analysis of the internal and external strengths and weaknesses of the Region.

Hamilton - Wentworth typifies a community with a mature economic base which is undergoing fundamental structural change within a rapidly changing global economy. It is expected that over the next few years economic growth will take place at a slower rate than that experienced during the mid to late 1980's. High levels of unemployment, increasing welfare caseloads, record bankruptcies, and declining building permits and housing starts currently depict a local economy that is undergoing a recession that has cyclical and structural components.

Manufacturing, particularly primary metal and steel fabrication, has long been the foundation which sustained and induced growth in other sectors in Hamilton-Wentworth. In recent years there have been numerous closures and dislocation of manufacturing enterprises, as well as significantly lower levels of employment in this traditionally high paying sector. While employment in manufacturing industries has decreased, investment in these industries has remained stable and in some cases increased. Investment in goods producing industries has a very positive effect on investment and employment in the service sector.

Competition from abroad makes it necessary to address the cost and quality of locally produced goods and services. Canada's branch plant economy, with little research and development and reliance upon natural resources, has fostered minimal value added capacity. Our failure to embrace modern technologies and management techniques inhibits us from competing in a global market. Educating the workforce, employers and unions to become more adaptable to global economic change is needed. A labour market information network to match worker supply and demand is not yet fully developed.

Demographic trends point to an aging population requiring an increased array of health care services. Further, the passing "baby boom" has left behind an infrastructure geared towards larger families which may not be adaptable to the demands of the fastest growing population segment -- seniors.

The community's attitude toward economic development, competitiveness, and lifelong learning must change. Our preoccupation with traditional measures of economic growth must also be amended as capital investment and job creation are no longer the only key indicators of economic development. Maintaining existing business and employment, technological advancements, and securing community development along with a heightened awareness and careful management of our natural resources, are now very important goals.

2.1 Community Strengths

The community's strengths were identified by the implementation team, as follows:

Community based strengths

- Networks which promote broad based participation in community issues;
- Organizations which promote co-operation between segments of the community thus facilitating networking;
- Readily available information about the community e.g. economic statistics, demographics. N.B. This information tends, however, to come from many sources and centralization would be a good idea;
- Ethno-cultural, social and economic diversity;
- A strong sense of community pride;
- A beautiful and diverse natural environment;
- Good political representation at the federal and provincial levels;
- Well defined, cohesive neighbourhoods; and
- Excellent health care services.

Industry and business based strengths

- A strong manufacturing tradition with strong related industries and institutions;
- Excellent research capabilities;
- Good location and proximity to North American markets;
- An abundance of available industrial land;
- Excellent inter-city transportation linkages (road, water, air, rail); and
- Emerging environmental industries and initiatives.

Education and Training based strengths

- A broad range of labour skills;
- First class institutions of higher education;
- Growing linkages between education systems, e.g. articulation programs;
- A growing awareness of the need to link education and the workplace, e.g. the work of the Industry-Education Council IEC), cooperative education programs, the Student Workplace Apprenticeship Program (SWAP);
- Innovative apprenticeship initiatives e.g. multi-skilling at Stelco and Dofasco;
- A paper produced by the Labour Market Constellation Network (LMCN) proposing a human resource strategy for the community;
- A working group of educators and government personnel interested in promoting effective education and training; and
- An innovative training organization, tranSKILLS.

2.2 Community Weaknesses

The community's weaknesses were identified by the implementation team, as follows:

Community based weaknesses

- Duplication, inefficiencies and confusion caused by two-tier government.
- An unfavourable perception on the part of outsiders e.g. pollution, adversarial labour relations;
- Inherited pollution;
- Poor intra-city transportation links;
- High unemployment and welfare rates;
- A mismatch between political and watershed boundaries;
- The structural adjustment occurring has had significant negative impacts on the community with heavy job losses, lower contributions to social and cultural organizations by business, and strains on social support structures; and,
- Leadership has been lacking to build on ideas, e.g. Bay Area Development initiative, Greater Hamilton Technology and Enterprise Centre (GHTEC), and Parkmed.

Industry and business based weaknesses

- An aging workforce;
- A heavy dependence on a few large employers e.g. steel producers, hospitals, McMaster University;
- An outdated economic strategy;
- A perceived lack of competitiveness of Regional businesses in the global market;
- Poor commercialization of research and development outputs:
 - GHTEC slow to become operational;
 - few, but growing mechanisms to assist entrepreneurs;
 - lack of funding for new businesses;
- Inappropriate size and location of industrial business parks;
- Inappropriate regulations governing land use in industrial business parks;
- There has been a loss of jobs in traditional large manufacturing companies and new businesses are not being developed to absorb displaced workers;
- Perceived adversarial labour/management relations; and
- No effective structure exists to pool ideas on the development of the Region and to implement plans.

Education and Training based weaknesses

- A shortage of highly skilled workers in some emerging growth industries;
- Unacceptable levels of illiteracy and poor numeracy skills;
- Access to employment and training is sometimes made difficult by the lack of support systems, e.g. child care and transportation subsidies;
- A primary/secondary education system which does not always produce graduates with necessary basic skills and which does not address the economic problems in this community;
- Lack of awareness of the need for lifelong learning;
- No linkage of education and training needs with an economic strategy;
- There has been a low priority given to careers in science and technology;
- With three school boards, duplication in administration and other areas probably exists;
- Linkages between educators and business need strengthening;
- There has not been a single source for information on education and training programs; and
- Community awareness of and education in sustainable development is lacking.

3.0 Economy, Livelihood and Workforce Education Outside Hamilton-Wentworth

3.1 The Global State

National economies are no longer self-contained. We are part of a global economy which is becoming more and more integrated. Some of the features of the global economy and global awareness are free trade, development of trading blocs, increasing competition, a quality imperative with regard to products and services, internationalization of business, environmental concern, rapid transfer of technology and rapid increase in knowledge.

The world's economy is currently in recession. Japan, Germany and the United States have traditionally been the engines for international growth. In Japan there has recently been a bursting of the inflation bubble in land. Stock market values have dropped by half. There are indications that Japan may have to spend more on improving the quality of life of its people. For a time it could be less oriented to international growth. Germany is preoccupied with combining the former East and West portions of the country. This will prove to be more difficult and costly than was thought initially. With the end of the cold war, the USA is going through a period of readjustment in its industries. It is going through a revitalization program in its industries to try and recapture its competitiveness. The nations of Eastern Europe are in economic disarray and will require massive help from the west.

Given this analysis it is likely that economic growth, as traditionally measured (GNP, GDP), will be slow in the next 5 to 10 years. Also, after that, with present problems resolved and with freer trade, there could be greater prosperity throughout the world. If this analysis is correct, in the short term inflation will be low and interest rates will also be low unless demand for funds pushes rates up.

3.2 The National State

Economic and social conditions in Canada are undergoing a significant shift. According to the old paradigm, Canada had a privileged position in the global economy. This is no longer the case. Table I illustrates some of the changes between the old paradigm of the last generation and the emerging paradigm of the next. All of the changes suggest that Canadians will need to work smarter to maintain their current standard of living.

Table I Emerging Trends in the Canadian Economy

Old Paradigm	New Paradigm
reliance on natural resources	natural resources losing value
protection of tariff barriers	lower tariff barriers: free trade, GATT
immigration of skilled workers	fewer skilled immigrants, shortage of skilled workers
few competing nations	many more competing nations
sustained population growth	slow population growth, aging society, coming shortage of workers
each generation richer than the last	increasing numbers of poor
low skills - high pay jobs	shift from low skill to higher skill
low unemployment	high unemployment
balanced budgets	high and climbing deficits
inflation	deflation (?)

Some other national influences on the local economy concern education and training, constitutional change, and technology. While education and training take place in the community, the major influences are external. Funding for universities and colleges comes from the Province. Schools are funded locally through property taxes, but the curriculum and standards are set by the Province. Apprenticeship is controlled and funded by the Province, Apprenticeship Act, 1928. Training is funded by the Federal and Provincial governments. Note that the creation of the Ontario Training and Adjustment Board (OTAB) has significant ramifications for this community. The constitutional debate is a current issue which could have profound effects on the nation and its economy. Likewise, technology is a major factor in the world economy. Some of its significant characteristics are that it can be transferred rapidly, it can create new industries and corporations, and therefore displace workers, and it has implications for education and careers.

4.0 Opportunities, Threats and Obstacles to Implementation of the Vision

4.1 Opportunities

Certain opportunities are presented in planning the future of Hamilton-Wentworth to:

- Plan effectively;
- Develop a greater international awareness and involvement in business, education and training;
- Increase access to services, education, training and employment opportunities for groups who currently have limited access;
- Concentrate business development activities in future perceived demand areas;
- Recognize the importance of science and technology and its implications for business, education and training;
- Develop a life-long learning culture;
- Link education and training strategies/plans with economic plans;
- Influence education and training programs more effectively at the local level;
- Improve the environment and produce new industries and jobs;
- Capitalize on quality of life and environmental products - a new major industry; and,
- Benefit from cultural, recreational and tourism products.

4.2 Threats

Certain threats exist for Hamilton-Wentworth:

- Any separation of Quebec would have an adverse impact on the Canadian economy;
- Increasing competition from newly developing nations as well as from traditional competitors;
- Manufacturing companies, which have been the major employers in Hamilton-Wentworth, will reduce employment further with:
 - increasing competition;
 - technology displacing workers;
 - late awareness of need for quality and competitiveness in world markets; and,
 - slow entry into export markets.
- The standard of living in Canada could decline given the declining value of natural resources relative to manufacturing;
- The workforce is not educated and trained with the skills that will be required in tomorrow's workplace;

- Free trade with Mexico could possibly further accelerate the decline in manufacturing of commodity products;
- Our cultural, economic heritage has produced an attitude which is not appropriate in today's highly competitive world;
- High government deficits will lead to higher taxes and a possible restriction of funds for development purposes;
- Slow growth in the world in the short-medium term could mean continuing high unemployment;
- Decisions on education and training in Hamilton-Wentworth could be made outside the community;
- Due to certain economic conditions, some countries and corporations could become very protectionist;
- Absence of a clear strategy for training in the community which could be exacerbated by the ineffective introduction of Provincial/Federal training boards;
- A growing segment of the population does not have adequate income opportunities; and,
- Urban sprawl (loss of agricultural land and environmentally sensitive areas).

4.3 Obstacles to Implementation of the Vision

The team felt it was important to distinguish between those obstacles which are under local control and those which are not. Obstacles in Regional or local control were identified as:

- Local taxes;
- Poor implementation of plans;
- Poor training and education;
- Scarcity of capital financing;
- Community attitudes, e.g., apathy, NIMBY syndrome; and,
- Lack of leadership.

Obstacles outside Regional or local control were identified as:

- Provincial and federal taxes;
- The recession; and
- Foreign competition.

The recommended actions in the next section concentrate on the obstacles within control of the local community.

5.0 Recommendations

5.1 Community Revitalization

GOAL: Revitalize neighbourhoods

Strategy 1: Promote neighbourhood revitalization and organize for change.

Actions

- 1-A Give neighbourhood revitalization a high priority in local government and clearly define responsibility and accountability for it.
- 1-B Use effective consultation processes to develop neighbourhood and community action plans. The process should involve all stakeholders and should identify actions and assign responsibilities.

Strategy 2: Make physical improvements in the community.

Actions

- 2-A The Region and area municipalities should change zoning by-laws, official plans and design standards to reflect sustainable development principles (e.g., road and landscaping design to minimize storm water run off, energy conservation in buildings and residences, and more opportunity for walking, cycling and public transit).
- 2-B Encourage surplus public, institutional, and business land be made available for allotments for small market gardens.
- 2-C Liaise with senior levels of government to secure funding.
- 2-D The Region's Environmental Services Department should develop a plan to help volunteer groups and other organizations undertake environmental clean-ups.
- 2-E Give facelifts to old buildings, and where necessary new buildings.

Strategy 3: Develop a community revitalization tracking model for Hamilton-Wentworth.

Actions

- 3-A Develop and implement a community revitalization "tracking model" to show the effects of specific Task Force recommended actions and measure their degree of impact in achieving a sustainable level of development in the community.
- 3-B Document in written and video format existing conditions, the plan of action, and the implementation experience. Distribute these materials across the community and to other communities, emphasizing the need for involvement in implementation of sustainable development strategies.

Strategy 4: Ensure all standards and regulations are followed and upheld.

Actions

- 4-A Strictly enforce all existing regulations.
- 4-B Write and enact a by-law that makes local politicians and department heads legally and criminally responsible for their actions and inactions.
- 4-C Develop criteria based on sustainable development principles to evaluate proposed development projects in the Region which require official plan amendment or rezoning.

Strategy 5: Promote neighbourhood and inner city redevelopment.

Actions

- 5-A Investigate methods of providing incentives for redevelopment activity in designated areas.
- 5-B Investigate methods of providing incentives for projects that meet sustainable development criteria.

Strategy 6: Integrate work places with residential and other community uses and green open space.

Actions

- 6-A Encourage work at home industries and small cottage type industries.
- 6-B Neighbourhood and development plans should be scrutinized to ensure that they promote the integration of economic activities, a mix of people, a vibrant neighbourhood setting and a sense of community.
- 6-C The Regional Municipality of Hamilton-Wentworth should consider amending their Official Plan, and encouraging area municipalities to amend their local official plans, to incorporate a broad array of suitable employment, education, commercial, leisure and residential uses in neighbourhoods throughout the Region.

5.2 The Local Environment

GOAL: To improve the local environment.

Strategy 1: The Regional government should act as a leader to promote activities that will improve the environment.

Actions

- 1-A The Region requests local libraries, media, and other organizations to provide more information on non-polluting energy alternatives, e.g., solar power and alternate energy products made from waste.
- 1-B The Region should provide more information to highlight the supply of local waste products presently destined for landfill, associated costs, and potential alternative uses.
- 1-C Have a portion of the GHTEC or a separate project dedicated to developing new products from waste.

Strategy 2: Offer assistance and/or incentives to organizations who do their part to improve the environment.

Actions

- 2-A Organize a team of specialists recruited from local industry and educational institutions to help smaller companies that may not possess the necessary technical expertise or resources to make their operations more environmentally sound.
- 2-B Consider offering incentives to local companies, organizations, and individuals who significantly improve the environment or who conserve energy and do not add to the present peak load demand.

Strategy 3: Protect and improve the existing natural environment through the use of regulations.

Actions

- 3-A Ensure that all new projects, public and private, meet environmental regulations.
- 3-B Protect, enhance and promote the Region's natural wonders such as the escarpment, harbour, waterfalls, flora and fauna.

5.3 Environmental Industry and Businesses

GOAL: Increase the number of businesses that are non-polluting and those that actually produce quality of life products that control, reduce and prevent pollution.

Strategy 1: The Region, in concert with other groups, acts to raise the awareness of business opportunities in the environmental industry sector.

Actions

- 1-A The Region of Hamilton-Wentworth joins with other regions and the Ministry of the Environment to issue specific challenges for an environmental products competition, e.g., what products can be made from used tires?
- 1-B The Region holds an annual sustainable development products showcase symposium.

Strategy 2: Directly support and promote the emerging local business sector that deals with pollution control, reduction and prevention and other quality of life products.

Actions

- 2-A Provide meaningful incentives, as a Regional package or program, to businesses which produce or service pollution control and prevention products for local consumption and export.
- 2-B Make a concerted effort to assist environmental businesses already in the Region to expand and to attract businesses with expertise in pollution control, reduction, prevention, waste management and recycling to the Region.
- 2-C Establish a task force consisting of local industry, environmental groups and citizens to study innovative and appropriate uses of available sites around the Bay.
- 2-D Assist local businesses to export quality of life products such as water, air and soil quality technologies, strategies and recycling programs developed in the Region.

5.4 Leadership

GOAL: Increase the ability of organizations and individuals in the community to be leaders.

Strategy 1: Help individuals and organizations in the community to obtain the skills needed to play leadership roles.

Actions

- 1-A Assist in the acquisition of skills to enable people to effectively participate in community affairs.
- 1-B Implement a recruitment strategy which incorporates identification, training and placement of individuals within leadership settings in the community.
- 1-C Undertake an exercise to identify key organizations that should act as leaders on particular projects and existing mechanisms that could best be utilized during implementation.

Strategy 2: Make organizational changes at the Regional level.

Actions

- 2-A Establish a stakeholder committee to investigate the advantages and disadvantages of one tier government, and if warranted, change to one tier government for Hamilton-Wentworth.
- 2-B Formalize the community consultation process by developing community consultation guidelines for each Regional government department to follow.

5.5 Clean Up the Bay

GOAL: To make Hamilton Bay safe for recreational use.

Strategy 1: Develop and implement a plan to clean up Hamilton Harbour while maintaining industrial areas to demonstrate that industry is compatible with environmental concerns and sustainable development.

Actions

- 1-A Utilize the Hamilton Harbour Remedial Action Plan as the basis or plan for cleaning up the Harbour.
- 1-B Until the harbour is totally cleaned up:
 - i) install large swimming areas at waterfront parks using the barrier method;
 - ii) install barriers around industrial areas to permit separation of natural areas and swimming areas from industrial outflows; and,
 - iii) allow use of these segregated industrial areas for the testing and demonstration of clean up technologies.
- 1-C Develop a ship decontamination lock to guard against zebra mussel type infestations.
- 1-D Harness waste industrial heat in conjunction with water to develop industries, e.g., greenhouses, hydroponics.
- 1-E Encourage the Royal Botanical Gardens, Canada Centre for Inland Waters and McMaster University to collaborate in designing and implementing a natural plant filter bed project to demonstrate and evaluate this method of water purification.

- 1-F Establish a super coordinating body with authority over Bay watershed issues, regardless of political boundaries.

5.6 Competitiveness of Business

GOAL: To improve the ability of local businesses to compete both locally and in the global market marketplace.

Strategy 1: Make information on government assistance to business more readily available and accessible.

Actions

- 1-A Directly publicize existing information sources to present and potential users.
- 1-B Set up an information booth in shopping malls and libraries.
- 1-C Have government information services open outside normal office hours.
- 1-D The Region should reduce "red tape" to a minimum by providing businesses and entrepreneurs with information packages on permits, business licenses, and grant applications.

Strategy 2: Make government more aware and responsive to the needs of business.

Actions

- 2-A Have local government staff and elected officials visit local businesses on a regular basis.
- 2-B Send local government staff on small business management and development courses and encourage secondments of government staff to, and work exchanges with, the private sector.

Strategy 3: Encourage locally owned and controlled businesses.

Actions

- 3-A Provide small business start up assistance in neighbourhood locations and in a format and language(s) that fits the neighbourhood.
- 3-B Maintain and update a list of local investors and entrepreneurs with a view to providing funds for new ideas.
- 3-C Establish a community equity fund to fund small business start ups.
- 3-D Explore new and old sources of venture capital and business loans, e.g., credit unions, cooperatives, and labour venture funds.
- 3-E Find ways to ensure that financial support is accessible to entrepreneurs originating from within the community.
- 3-F The Region should establish, or incorporate into an existing private or public agency, a body whose function it is to promote the substitution of imports by competitive local products.

This body would accomplish its goal primarily by:

- a) acting as a matchmaker between local suppliers and buyers;
 - b) sponsoring and promoting trade shows whose theme is import substitution; and,
 - c) educating local consumers on the job creation and retention possibilities, possibly through a local media campaign.
- 3-G The Region should establish or promote the establishment of a local self-reliance institute which seeks to help high visibility businesses, institutions and local governments to examine their energy, waste, water and materials flows, and then to use their wastes as raw materials.

Strategy 4: Encourage and support research and development activities by local firms, especially those involved in environmental products or alternatives strategies for small business development.

Actions

- 4-A Carry out a review of the local research underway in these areas.

- 4-B Create a centralized resource centre that details the types of initiatives being undertaken. This centre should be accessible to all individuals, entrepreneurs and small businesses.
- 4-C Help researchers and companies to obtain grants from the 'Green Plan' to fund initiatives and projects.
- 4-D Promote and assist in the development of more small business and research/production process incubators in the Region, e.g., tax defaulted property could be leased out as incubator space.
- 4-E Develop mechanisms to encourage commercialization of innovative products, processes and services.

Strategy 5: Emphasize science and technology as a key for future economic growth.

Actions

- 5-A Establish an organization responsible for the advancement of science and technology in the community.
- 5-B Continue the work being done by the Hamilton Public Library, the Region and the Business Advisory Centre to establish a Technology Transfer and Diffusion Unit.
- 5-C The boards of education, educators and councillors should promote courses and careers in science and technology.
- 5-D Fast track realization of the GHTEC and provide support for private sector business incubators. Find alternative ways to establish the GHTEC if present proposals are delayed. Once established, encourage student groups and others to tour the GHTEC.

Strategy 6: Encourage local employers to undertake training in the workplace and encourage local employers and employees to adopt a lifelong learning culture.

Actions

- 6-A Develop a "matching program", co-sponsored by, for example, the Chamber of Commerce, the Rotary, Employment and Immigration Canada, and the Region, where local workers, including those on unemployment insurance and social assistance, are matched up with local business development initiatives.

- 6-B Designate one community organization to collect, keep current, and disseminate information on training, education and related government support programs. This work is being done at the Hamilton Public Library in the form of the Skillsource project and it will be tied into Skillslink, a similar Ontario wide initiative.
- 6-C Determine where funding to advertise and promote Skillslink will come from. Potential sources include: Region, Hamilton Public Library, Federal government, Provincial government, end users).
- 6-D Form a competitiveness network to make business people aware of the need to adopt competitive practices in the workplace.
- 6-E A group should be formed to define and implement a plan that promotes the concept of lifelong learning in the community, or alternatively, the responsibility for this should be assigned to a Regional government department.
- 6-F A community task force should be established to:
 - i) promote more effective, focused and coordinated training programs;
 - ii) promote more involvement on the part of the private sector in job training and retraining;
 - iii) recommend to the Ontario Training and Adjustment Board (OTAB) names of persons to sit on the Local Training and Adjustment Board (LTAB);
 - iv) work with the OTAB and the Canadian Labour Force Development Board (CLFDB) to assist in the process of establishing the LTAB;
 - v) ensure that existing initiatives are built upon and not lost; and,
 - vi) recommend any actions it feels will lead to effective establishment of the LTAB.

Strategy 7: Encourage entrepreneurship both in the school system and the community.

Actions

- 7-A Encourage local boards of education to include entrepreneurship and business studies in their curriculum.
- 7-B Have educators and guidance counsellors present business ownership and entrepreneurship as viable career options.
- 7-C Encourage participation in entrepreneurial activities, e.g., junior achievement.
- 7-D Expand cooperative education programs.

- 7-E Develop and administer modern and appropriate advertising and promotion techniques to reach individuals in the community with the message of entrepreneurship.

Strategy 8: Improve intra-regional transportation linkages.

Detailed actions were not developed. Therefore, defer to Transportation Implementation Team actions.

5.7 Adequate Income Opportunities for all Citizens

GOAL: Plan for appropriate wealth and job creation which will provide all citizens with an opportunity to have an income to meet, as a minimum, the necessities of life

Strategy 1: Preserve the existing business base in Hamilton-Wentworth.

Actions

- 1-A Review existing tax requirements and business regulations and amend or remove those that impede business development.
- 1-B Create an awards program for excellence in productivity improvement in various categories.
- 1-C The Region should join with other organizations to develop a program to help skilled employees establish their own businesses when the companies they work for down size or close.
- 1-D Develop and implement policies to support viable farming operations.

Strategy 2: Diversify the economic base of the Region.

Actions

- 2-A Target specific segments for attention i.e. world leadership in pollution control, reduction in waste management and recycling.

- 2-B Encourage the Ministry of the Environment and other provincial ministries to locate their main offices in the Region.
- 2-C Develop a model business research park geared toward environmental technologies.
- 2-D Encourage small cottage-type and work at home industries.
- 2-E The Region should provide funding for an innovation centre for sample product manufacture.
- 2-F Consider business alliances based on existing strengths in the community in order to develop products for the world market.
- 2-G Develop a work at home computer network linking resources at McMaster University, Mohawk college, the Canada Centre for Inland Waters. Typical work could be development of software packages for environmental design processes.

Strategy 3: Support and develop community initiatives designed to respond to various barriers to employment and human development.

Actions

- 3-A Encourage employers to adopt modern business practices that will permit freer access to employment for all individuals, e.g., child care, access and training for the physically disadvantaged, job-sharing and job rotation.
- 3-B The Region should support initiatives such as the Hamilton-Wentworth Employment Consortium and the Promise the Children Poverty Forum.
- 3-C The Region should undertake a comprehensive review of regulations and ordinances that appear to impede industrial development and redevelopment.

5.8 Training and Education

GOAL: Become a world leader in education and lifelong learning.

Strategy 1: Introduce the concept and principles of sustainable development into the educational system at all levels.

Actions

- 1-A The Region should meet with the various levels of formal educational institutions (local boards, private schools, post-secondary institutions) to discuss the concept of sustainable development as part of the curriculum.
- 1-B A program should be developed with each institution regarding the details of incorporating sustainable development into their teachings.
- 1-C Train teachers to deliver the program.
- 1-D Evaluate results of the program and obtain feedback from teachers and students. Make any necessary changes
- 1-E Develop teaching awards for excellence in teaching sustainable development.

Strategy 2: Create and make available up-to-date labour market information.

Actions

- 2-A Designate one community organization with the responsibility for the collection and collation of labour market information on an ongoing basis for dissemination to all interested community organizations.
- 2-B Define the information which is required by community organizations.
- 2-C Implement systems which will permit ready collection and distribution of data.

Note: A sub-committee of the LMCN has been formed to decide on the best ways to implement these actions.

Strategy 3: Improve links between education, training, business, and other organizations.

Actions

- 3-A Encourage firms and businesses to adopt schools.
- 3-B Consult with local stakeholder groups in setting school curricula.
- 3-C Encourage key stakeholder groups to meet and identify common actions and strategies that would link them productively.

Strategy 4: Develop stronger links between the Economic Strategy and human resource development plans.

Actions

- 4-A Recruit individuals in the areas of education and training to be on the technical advisory committee that is advising staff on the update of the Economic Strategy.
- 4-B Utilize the LMCN's "Call to Action" report as the basis for a Human Resources Development Plan.
- 4-C Consider elements from the LMCN's "Call to Action" report for inclusion in the updated Economic Strategy.

Strategy 5: Improve the education system.

Actions

- 5-A Form a group of community stakeholders (educators, business people, and citizens) to get on with the job of improving the education system based on the findings of existing studies.
- 5-B Encourage the three local school boards to come together to develop ways of reducing duplication of costs and effort.

Strategy 6: Introduce the concept and principles of sustainable development to other organizations in Hamilton-Wentworth.

Actions

- 6-A A program should be developed with each organization regarding the details of incorporating sustainable development into their operations.
- 6-B Train individuals in each organization to deliver the program.
- 6-C Evaluate the results of the program. Make any necessary changes.
- 6-D Develop awards for excellence in the adoption of sustainable development principles in businesses.

Appendix A -- The Implementation Team Process

The Economy, Livelihood and Workforce Education Team met on eleven occasions between March and June 1992. Their purpose was to suggest specific ways that the vision could be made reality. The team made use of written articles, video presentations, research done by the members and staff coordinators, and the Working Group Final Reports, to assist in their deliberations.

The team adopted the process described below:

What we want

The team shortened the original vision as prepared by the Sustainable Development Task Force to better represent the key components of the ideal community.

The Current State

A brief description of the state of the economy, livelihood and workforce education in the Region was prepared.

Internal Environmental Analysis

A detailed analysis and description of the strengths and weaknesses within the Region and relevant to the topic was prepared.

External Environmental Analysis

A detailed analysis and description of the effects of external influences on the Region, national and international, was prepared.

Identification of Opportunities, Threats and Obstacles

Based on the above steps, certain opportunities and threats were identified, along with obstacles that prevent achievement of the desired community.

Determination of Goals, Strategies and Actions

Finally, a set of goals, strategies and actions were prepared by the team to capitalize on opportunities, minimize the threats and overcome the obstacles. These were organized to reflect the major topic areas discussed in the amended vision.

A Report
of
The Implementation Team
on
Land Use Planning & Community Design

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the eight reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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1.0 Introduction

This report of the *Land Use and Community Design Implementation Team of the Chairman's Task Force on Sustainable Development* outlines policy directions required to create an urban area based on the principles of sustainable development. The implementation strategy begins with a discussion of the desired the regional land development pattern, and then presents in three sections (financial incentives, land use regulations and public information and knowledge) the actions needed to encourage this urban land use pattern.

Background

In the development of "VISION 2020" the *Regional Chairman's Task Force on Sustainable Development* organized a comprehensive public consultation process. Concerns about the quality and type of urban development occurring in our community were expressed by a number of people. Many people felt continued suburban sprawl was destructive to the character of the land and wasteful of a limited resource - agricultural land.

The following extract from "VISION 2020" reflects the concerns expressed by the people of Hamilton-Wentworth and defines the desired physical structure to the community.

"Urban areas are laid out, and individual buildings designed and located, in ways that maintain community character, respect our cultural and natural heritage, and satisfy people's needs and desires. Urban development occurs within firm boundaries. Green corridors bring nature into the city, giving people easy and convenient access to the open countryside, natural areas and continuous public open space along the bayshore and lakeshore. Our neighbourhoods are models of energy-efficiency, waste-reduction and respect for nature. Human needs for space, privacy, safety, and aesthetic appeal are fulfilled."

In the year 2020, we know our neighbours. We live in communities and neighbourhoods together with people of all ages and walks of life. Different kinds of activities and land uses are mixed closely together, so that we can walk to meet our daily needs for work, recreation and other services. Each neighbourhood has a central gathering place where essential services such as shopping, health care, education and recreation are clustered around an attractive, car-free common open space. This gives everyone an opportunity to participate in all aspects of community life. Each neighbourhood has a full range of housing types and prices allowing people to live in their communities throughout their lives. This is true also for former suburban industrial-business parks, which have been re-developed with homes and other activities mixed in with workplaces.

Hamilton-Wentworth is a warm and friendly place where people actively care for their community and are concerned for one another's welfare. The streets and public areas are safe at all times. Neighbourhoods have strong local identity. Residents actively participate in community life, to a large extent, controlling the pace and design of change. The decision-making process is easily understood and open to involvement by all. Politicians and public employees take the actions needed to achieve long-term community plans."

2.0 The Regional Land Development Pattern

Current Situation

To a large extent the people of Hamilton-Wentworth live within a continuous central urban area which consists of the City of Hamilton, City of Stoney Creek, and the Town of Dundas. The urban area is flanked by the urban communities of Town of Ancaster and Waterdown. In addition to the urban area there are 18 rural settlement areas and the community of Binbrook which is designated as a Stage 2 urban development area in the Region's Official Plan.

The Official Plan designates within the urban area a generalized picture for future urban development. Each of the six municipalities has an area designated for industrial-business development and a supply of land designated for future residential development. Downtown Hamilton is designated as the Regional Centre while the two areas centred on Limeridge Mall and Eastgate Square are designated as sub-regional centres.

Assuming continued residential development of the type seen in the last three years, it has been estimated that the existing supply of undeveloped land designated for urban residential development will last another 15 to 20 years (Hamilton-Wentworth Planning and Development Department, *Vacant Urban Residential Land, Fact Sheet*, January 1992) while the existing supply of undeveloped land designated for urban industrial-business development will last another 57 years (Hamilton-Wentworth Planning and Development Department, *Industrial Land Development, Fact Sheet*, January 1991). Furthermore the 1990 Employment Survey identified over 1,500 vacant buildings, office space and vacant lots within the urban area of Hamilton-Wentworth which could be used for commercial/industrial purposes. (see map, page 4)



Existing Built Area

Undeveloped Residential

THE REGIONAL DEVELOPMENT PATTERN

Source : Planning and Development Department of
Hamilton-Wentworth Region

Purpose

The purpose of this section is to describe future a future urban development land use pattern for the Region. The proposal is one which focuses on creating a more compact urban form which makes use existing services in the already designated urban area rather than allowing for continued urban sprawl.

The Task Force on Sustainable Development for Peterborough and Area (1991) identified several advantages to encouraging and developing a more compact urban form:

- intensification allows urban areas to grow in population without taking up additional land, particularly agricultural lands;
- higher development densities reduce servicing costs to the municipality, developer and resident;
- higher development densities allow the development of more effective, efficient and affordable public transit systems which can reduce private motor vehicle traffic;
- within a compact community, walking and bicycling become viable transportation options; and
- higher density housing requires less energy for space heating.

Description

The proposal can be described as a mixed use nodal urban development pattern which results from increased density and diversity.

Nodes of Activity

The urban area of the Region already contains a network of activity centres. These include the Regional Centre (downtown Hamilton), the Sub-regional centres (Limeridge Mall & Eastgate Square), municipal downtown cores and other areas, such as Centre Mall. It is proposed that these nodes develop as centres of mixed activity. Each centre should:

develop a range of residential, commercial, retail, industrial, institutional, and related employment opportunities which is appropriate for its size and function;

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develop as relatively self-contained communities, in order to reduce the amount of inter-urban commuting; and

develop a full range of housing types so that workers have the opportunity to live and work in the same community.

Corridors

In addition to these activity centres arterial roadways can operate as mixed use activity areas. Currently in many older areas (ie. Barton Street) the resident population is too small to support commercial activities while in newer areas (ie. Upper James) development has been almost exclusively low density commercial development designed to accommodate the private automobile. It is proposed that major corridors, in particular those served with public transit, be developed with medium density, mixed uses. Mixed use development along activity corridors should:

offer various combinations of retail, residential, institutional and commercial in individual buildings and between buildings.

Greenspace

In the urban area of Hamilton-Wentworth there is a large amount of greenspace which could be linked to provide a network of green corridors. Areas, such as the Niagara Escarpment, the Red Hill Creek Valley, Confederation Park, Dundas Valley, Cootes paradise, Gage park and so on, could be linked to form this network.

Also suggested, is the development of a green corridor along the boundary of the urban area, in order to provide a transition from urban to rural land uses.

Suburban Industrial-Business Parks

The Region's Official Plan designates in each area municipality an area for industrial-business development. It has been estimated that these areas offer a 57 year supply of vacant land for future development. The single use, isolated locations of these areas means people have to travel longer distances to reach these destinations. Encouraging new development to locate in these areas can mean established serviced areas will decline (ie. the 1,500 vacant sites identified in the 1990 Employment Survey). To a large extent the development in the industrial-business parks has been in the service sector. Many of these activities can be mixed with other land uses, such as residential. The suburban industrial-business parks should be:

considered part of the urban development area, allowing a range of land use activities, including residential, commercial, industrial, and institutional; and

developed as mixed use areas rather than as single use segregated areas.

Recommendations

- incorporate the proposed urban development pattern into the Region's Official Plan.
- develop a regional servicing and transportation strategy to reflect the desired urban development pattern.

3.0 Achieving the Desired Urban Development Pattern

Background

The implementation team is proposing a three part strategy that involves financial incentives, land use regulations, and public information about the costs of our current lifestyle. The implementation team recognizes that development should continue to occur because it provides a number of benefits to the community.

What the implementation team is proposing is that development be controlled and directed in a certain way. The existing pattern of suburban sprawl is costly to the environment and also financially in the provision of municipal services. A more compact urban form requires less roads, allows more efficient public transit, less water and sewer lines, fewer street lights, and so on. The costs of maintaining the community should be reduced for the taxpayer.

Goals

To minimize the environmental, social and financial costs to the residents of Hamilton-Wentworth of new development.

To minimize urban sprawl, the encroachment on rural and agricultural land and commuting distances.

Purpose

The purpose of this section is to outline land use, urban design, planning and financial policies which will achieve a sustainable urban development pattern.

This section begins with the financial mechanisms available to government for influencing urban development. Part two presents a series of new land use regulations and part three is a presentation of ideas for informing people about the costs of our current lifestyle and the benefits of change.

3.1 Financial Incentives

Recommendations

1. Development Charges

- Development charges should be greatest for those developments which require new services while those which can show that they will require no additional or new services should be charged the lowest.
- Development charges should vary according to the type of development and reflect probable social and environmental costs. Low density development should pay a higher fee than high density development.
- Development charges should be charged according to geographic area. High density areas designated for mixed use development should have lower fees while greenfield development should pay the highest fee.
- Development charges should be set in relation to a desired or optimum density level. If a development is below the desired density (defined in neighbourhood/secondary plan) it should pay a high charge because it will make inefficient use of services. If a development is above the desired density there should be a high charge reflecting the cost of providing new services. Flexibility could occur by allowing appropriate density transfers in the geographic area defined by the neighbourhood/secondary plan.

2. Property Taxes

- Similar to development charges property taxes should reflect the true environmental, social and financial costs of providing municipal services. Property taxes should be lowest in high density development areas while greatest in low density areas. Market value assessment does not encourage the developmen of a sustainable urban area.
- Remove the barriers in the existing property tax structure which discourages rehabilitation of the existing building stock (ie. any home improvement costing more than \$5,000 result in a reassessment of the property).
- Revise the property tax system to allow municipalities the ability to direct urban development according to the principles of sustainable development (ie. allow the local municipality to set assessment rates).

3. Setting an Example

As part of its efforts to encourage new business development in the Region the Economic Development Department focuses a portion of its work on finding new businesses to locate in the suburban industrial-business parks. Although these efforts are needed, they encourage urban sprawl and possibly encourage businesses to relocate from the built urban area to the developing industrial-business park.

- The Economic Development Department should focus its efforts on facilitating and encouraging new businesses to locate in the developed urban area. For example, encouraging new businesses to locate in municipal downtowns as opposed to the suburban business parks.
- Use non-profit housing corporations and their developments as possible seeds for development in certain areas of the Region. The Provincial Government should be encouraged to ensure adequate funding is available to these housing projects and that funding programs offer the flexibility to try smaller more innovative projects.

4. Financial institutions

- Programs should be developed in partnership with municipal government to offer special loans for people willing to invest in the redevelopment of areas, such as Barton Street.

3.2 Land Use Regulations

In order to create a sustainable community there needs to be new land use controls. If we are to reduce urban sprawl and the loss of agricultural land, encourage people to make use of alternative forms of transportation and reduce the financial costs to the taxpayer a more compact urban form is needed. It is important, however, not to confuse planning for future growth with attempting to stop or slow development.

Given increased federal immigration rates and Hamilton-Wentworth's location within the golden horseshoe, there will continue to be population growth and new urban development. By the year 2020 Hamilton-Wentworth's population could increase by almost 100,000 people. The direction and form this new urban development takes is what must be controlled.

Land use regulations were first developed in response to a need to protect public health. Noxious industries had to be kept out of residential areas. Even though most of today's commercial and industrial sites no longer pose health threats, this philosophy is still used to segregate homes from jobs, shops, and other centres of activity.

Hamilton-Wentworth like the rest of North America is seeing a shift in employment from the manufacturing to service sector (Planning and Development Department, 1992. *Employment Trends, 1982 & 1990.*). Even though this type of employment tends to have little or no affect on residential areas the current land use model segregates new employment centres away from other land uses.

Land use regulations need revision and revisiting. In the following recommendations it is suggested that a more rational approach would be to develop regulations which allow increased density and diversity. Integration of homes with workplaces, shopping and other amenities would make them easily accessible by walking, cycling, or public transit. The new regulations are not suggested as a way to inhibit new development but rather to lift restrictions that prevent mixed use development and higher density development.

The recommendations to a large extent are derived from the report "*Transit Supportive Land Use Planning Guidelines*" prepared by the Ministries of Transportation and Municipal Affairs.

Recommendations

1. Firm Urban Boundary

- The current urban boundary should be designated as the ultimate boundary.
- Establish an interim urban boundary based on the current provision of water and sewer trunk lines (approximately 50 to 60% of existing vacant designated urban land).
- Only permit rural estate development when it is guaranteed that present and future, environmental, social and financial costs will be paid by the residents.
- Designate the existing boundaries of rural settlements as their ultimate boundary.
- Designate an area along the urban boundary as a green corridor. The Region in conjunction with area municipalities and conservation authorities should allocate funds over the long term to the purchase of land within the designated green corridor.

2. Urban Structure

- Designate in both the Region's and Area Municipal Official Plans the recommended mixed use nodal urban development pattern.
- Identify in the Official Plan the ultimate employment and residential densities for each activity node.
- Provide public transit service between the activity nodes which is fast, efficient, cheap and convenient.
- Provide appropriate municipal services in each activity node which accommodates the desired development density and when needed.

3. Zoning

- Develop a comprehensive zoning bylaw which allows greater flexibility and is simplified to a maximum of 10 categories.
- Revise appropriate legislation to allow the zoning bylaw to control building.
- Examine the possibility of using performance zoning.
- Zoning bylaws should allow a mix of land uses (residential, commercial, retail, entertainment, recreational, and light industrial) plus a mix of densities (single detached, row housing, low rise apartments).
- When appropriate require buildings to locate at the streetfront.
- Reduce the maximum parking requirements.
- Allow trade-offs, such as, reduced parking requirements for provision of employee transit passes.

4. Neighbourhood and Secondary Plans & Plans of Subdivision

Review and design should include:

distance to transit stops (maximum 5 minute walk);
 identify location of transit stops;
 distance to neighbourhood facilities;
 provision for cycling;
 construction of sidewalks and pedestrian walkways; and
 sidewalk design with pedestrian amenities, such as, design for the mobility impaired, and protection from wind and sun.

5. Site Plans

Site plan review should include following concerns:

direct uninterrupted pedestrian access from building entrance to public sidewalk;
 the access needs of people with disabilities;
 buildings should be located as close as possible to the streetline;
 parking and storage for bicycles;
 pedestrian amenities should be provided for protection from wind and sun; and
 municipalities when appropriate should request sidewalk improvements, transit shelters and other amenities.

3.3 Public Information and Lifestyles

A public information campaign to help people understand the need for a change in lifestyle should be implemented in conjunction with the other measures proposed in this report. It is imperative that people understand the financial, environmental and social benefits of creating a more sustainable urban form. We must realize that everyone in the community is responsible for developing the sustainable community.

It must be recognized that public education is only one component, not a solution in itself. The policy and financial changes recommended earlier are needed for long term behavioral change. It is imperative that we begin to pay the true cost of our lifestyle rather than living off future interest.

Recommendations

The City of Toronto, Healthy City Office in its report, "*Evaluating the Role of the Automobile: A Municipal Strategy*", has identified the following key components to any public education strategy:

- Provision of facts about the consequences of a behaviour/lifestyle, and its negative effect on the health of individuals and the community.
- Provision of information about what individuals can do, and how individual action can make a difference.

- Provision of a range of options, allowing individuals to change their behaviour, according to what is possible for them.
- Provision of incentives which reward responsible behaviour (ie. provide free transit passes for people involved in citizen committees as opposed to providing free parking).
- Will require a leader and role models who demonstrate what is possible.
- Will require group participation (employee, students, community groups, families) in establishing realistic goals.
- Will require ongoing feedback and encouragement, including public assessment of results.
- Will require activities that are focused at the community level through local citizen's organizations, neighbourhood groups, and personal contacts, and ongoing evaluation at that level.
- Will require creation of coalitions among a diversity of public and private sector organizations to support a common objective.
- Will require messages that foster public awareness and support for legislative changes aimed at mandating desired behaviour changes.
- Will require consistent messages that are delivered by a variety of public and community agencies.

The implementation team further suggests the following specific actions:

- Host an architect/developer competition of innovative urban designs with press coverage and public viewing.
- Host a high profile respected spokesperson (ie. David Suzuki).
- Ensure the involvement of environmental/conservation groups which already have well established promotional strategies.
- The Regional Chairman should designate a "Sustainable Development Week" during which activities focus people's attention on the issue.

- The Region should work with the local Boards of Education to include the concept of sustainable development within the environmental studies program.
- Should prepare models and drawings of the Region in the year 2020 which show how the Region would look if urban sprawl continues and if the proposed development pattern is constructed. Cost analysis to the taxpayer should be part of the presentation.
- Encourage the local press to feature neighbourhoods that present the qualities desired in a sustainable community.
- Set an example of sustainable practices in gardening through maintenance of parks.

Appendix: Assessment and Taxation - Background Paper

ASSESSMENT

Current Assessment System

Municipalities levy taxes based on the assessed value of real property. The taxes are collected by lower-tier municipalities and shared with upper tiers, school boards and special purpose bodies. Assessment is also used in the determination of the distribution of provincial transfer programs.

It is important to note that the authority to assess is different from the authority to tax. In Ontario, primary authority over assessment policy lies with the Province. The province determines the assessment base on which taxes are levied by municipalities. The Province also sets the standards for assessment. At the municipal level, a local mill rate is determined which is applied to the assessment base established by the Province.

In Ontario, the assessed value of property can vary widely depending upon when the municipality was last reassessed and the type of reassessment that was done at that time.

For a municipality which has not undergone a reassessment in some period of time the assessed value of property in that municipality will not reflect current market values.

At present, when a municipality or region decides to undertake a reassessment there are two basic programs which can be adopted. Under **Section 63** of the Assessment Act properties within each property class are assessed at their market value in a given base year. Base years are four years apart (1984, 1988, ...) and The Ministry of Revenue chooses the most appropriate. Discount factors are applied to each property class so that the total tax burden within each property remains that which existed before the reassessment was performed. On an upper-tier basis, this type of reassessment preserves the total tax take from each property class overall, but within municipalities it is possible for significant shifts in tax burden to arise.

Section 63 reassessments have been successfully implemented in the Regions of Haldimand-Norfolk, Sudbury and Waterloo.

Under **Section 70** of the Assessment Act, properties are assessed at their full market value but there are no discount class factors applied. This has the effect of allowing shifts in tax burden to arise within property classes. Section 70 reassessments have been implemented in the district municipality of Muskoka, and Huron and Prince Edward counties. Upper-tier reassessment under both section 63 and section 70 requires updates every four years.

Fairness in the Assessment System - Concerns

The Report of the Advisory Committee to the Minister of Municipal Affairs on the Provincial-Municipal Financial Relationship highlighted current inequities in the present assessment system. Basically, the types of differences that can occur in current assessment practice include:

- Within-class differences
- Between-class differences
- Differences between municipalities

Within-class differences

These differences occur when similar properties have the same market value but different assessed values for taxation purposes. This can occur when the properties have been last assessed at different times and have appreciated at differing rates since the last assessment.

Between-class differences

Between-class differences are evident when noting that Residential properties have historically been assessed at a lower percentage of market value than industrial and commercial properties. This is not necessarily an inequity in the current system as the different property classes can differ in their demand for municipal services and can reflect differing ability to pay for those services.

Differences between municipalities

Differences between identical property classes in different municipalities in a region can occur when each municipality applies a different class factor in assessment determination.

With assessment systems varying across Ontario, the provincial government has developed a means by which to equalize assessment and translate existing assessment into a common tax base. This is used to determine distribution of transfer payments and apportionment of upper-tier and school boarding funding burdens.

Property Tax Assessment-Implications for Land Development Policy

As noted by the Fair Tax Commission, Property Tax Working Group, the property assessment system could be developed so that it becomes an effective instrument in land development policy. Developing a locally-determined assessment system, would allow, for example, a policy of decentralization to be pursued by placing higher commercial assessment values in downtown areas than would be applied to similar properties located in outlying areas. While municipalities do not currently have this assessment policy authority, it is an idea that has been raised in discussions pertaining to Disentanglement and establishing a fairer tax system.

TAXATION

Mill Rates

Currently, the Provincial Government determines the relationship between residential/farm and commercial/industrial mill rates. The mill rate for residential, farm and vacant property is 85 per cent of the mill rate used for commercial and industrial property classes.

The Fair Tax Commission in its preliminary discussions has highlighted the benefits and drawbacks of amending legislation to permit greater flexibility in mill rates between property classes.

There are two primary arguments in favour of variable mill rates.

- Variable mill rates would help lessen the shifts in class tax burdens brought about with the transition to full market value reassessment.
- Giving power to local governments to set mill rates on different classes of property is more consistent with the use of property tax for particular specified local purposes.

The Fair Tax Commission has noted that local governments, given the authority to vary effective tax loads between property classes, could use variable mill rates as an effective tool to accomplish various economic development, land use planning and social policy objectives. Council would have the ability to determine the apportionment of the tax levy between property classes.

In discussing this idea, the Property Tax Working Group of the Fair Tax Commission has stated that initially a judgement would be required defining what the tax burdens between property classes should be following full market value reassessment. Tax rates would then be established to compensate for shifts in tax burdens between the property classes

There are several issues which can be raised against implementation of variable mill rates. Among those identified by the Fair Tax Commission are the following.

- Variable mill rates could lead to competition between local governments in efforts to encourage industry to relocate
- Current apportionment and equalization procedures would be impacted since there would no longer be a fixed relationship between assessment and relative property class tax burdens

The Property Tax Working Group at the current stage of taxation review has not made a recommendation in the area of implementation of variable mill rates. The panel has agreed that should variable mill rates between property classes be established they should not apply to education property taxes.

Municipal Bonusing - Implications for Economic Development

Municipal bonusing refers to any form of financial advantage given to industry. This includes tax relief or freezes or any form of subsidy. Legislation enacted in 1962 by the Provincial Government prohibits municipalities from offering financial incentives to new or existing business however the Province however does have the authority to attract industry to Ontario through various incentives.

Some Ontario municipalities are asking for changes in this legislation to enhance their competitiveness in attracting industry that is consistent with economic development objectives.

There is conflicting evidence on the effect of bonusing on companies' decisions to locate or relocate in certain jurisdictions. Although almost every American state with which Ontario competes offers some form of bonusing, companies cite numerous other factors as contributing more to the decision on company locale. These include:

- Availability and cost of labour
- Market access
- Transportation Networks

Companies who have chosen to leave Ontario have listed high land and labour costs and marketing strategy as driving their decision to relocate outside of the province. Further, the factors listed above are more of a function of national and international policy which would support the argument that if bonusing were to be permitted that it should be under the authority of senior levels of government.

While opinions on the effect of bonusing seems mixed, other financial tools are being explored.

In December 1991 the Task Force on Innovative Infrastructure Financing was established--an initiative brought forth by the Association of Municipalities of Ontario. The Task Force report expected by year-end 1992 will table guidelines for municipalities on the use of various innovative means of financing local infrastructure including establishing co-ventures with private sector. The Province has recently allowed the City of Windsor to enter into a co-venture agreement with a local private developer to construct a community multiple-use facility. Permitting these types of co-venture arrangements will allow regional municipalities more financial flexibility in pursuing sustainable development objectives.

The Fair Tax Commission panel investigating these issues has recommended that restrictions be lessened allowing municipalities to enter into innovative financial relationships with private interests.

Other Issues

The Property Tax Working Group is also examining the revenue base of local governments and the Provincial/Municipal responsibility in funding of services. It has been argued that programs which involve the redistribution of income such as welfare and public housing should be a Provincial responsibility and funded from taxes reflecting ability to pay like the income tax. Conversely, services such as roads it is suggested should become a local responsibility and funded from the property tax.

The Report of the Advisory Committee to the Minister of Municipal Affairs on the Provincial-Municipal Financial Relationship set forth several alternative revenue sources for municipalities. Among those listed, an environmental tax was cited as one way in which deterioration of the environment could be curtailed. In the report it was recommended that municipalities should be given the authority to impose an environmental tax where it can be shown that local objectives will be achieved.

Development Charges

The Development Charges Act, 1989 gives legislative authority to municipalities to exact charges on development in order to fund the net capital costs that are attributable to growth. The reasoning behind the use of development charges is that new and not existing residents should have to pay for the capital assets required to service new residential communities. In Hamilton-Wentworth, Regional Council recently approved a 30% reduction in residential development charges and a 40% reduction in commercial development charges in order to stimulate the local economy.

The Development Charges Study, April 1990, conducted by Coopers & Lybrand set forth the development charge policies adopted by the Region of Hamilton-Wentworth. The study is currently being reviewed as required in accordance with the Development Charges Act.

Sources:

Report of the Advisory Committee to the Minister of Municipal Affairs on the Provincial-Municipal Financial Relationship

Ontario Fair Tax Commission, Property Tax Working Group Discussion Papers

A Report
of
The Implementation Team
on
Transportation

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

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Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the eight reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

People's Concern about Transportation

In the development of "VISION 2020" the *Regional Chairman's Task Force on Sustainable Development* organized a comprehensive public consultation process. A common concern expressed in both verbal and written presentations was society's reliance on the car. An example of this concern is seen in the written presentation made by the *Ancaster Committee to Improve our Neighbourhood (ACTION)*.

"... the main thrust of planning has been to accommodate the automobile and facilitate its use. North Americans now confront two unfortunate results of this policy: (1) serious air pollution . . .; and (2) a massive loss of land to . . . roadways and parking lots."

All 18 Focus Groups expressed a desire for improved access to cycling opportunities. Many Focus Groups talked about public transit and the need for improved service to outlying areas of the Region. Concerns about the pedestrian were seen in discussions about access. For example, a concern was raised that pedestrian signs change too fast and people with disabilities and the elderly can not cross the street in time (*Summary Report #2, Community Focus Groups*).

One of the seven major issues of concern, identified from the seven public workshops held in 1990, was;

"the existing transportation system offers inadequate opportunities for cycling, pedestrians and public transit" (*Visions Newsletter*, No. 2, Spring 1991).

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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1.0 Background

This report of the *Transportation Implementation Team of the Chairman's Task Force on Sustainable Development* outlines an implementation strategy consisting of goals, principles and recommended actions. The primary goal of the strategy is to define the actions needed, to develop the transportation system stated in Sustainable Development Task Force's vision statement.

The following extract from "VISION 2020" defines the desired transportation system.

"An integrated public transportation system serves the entire region in an affordable, efficient, and accessible way. Clean forms of transportation predominate. Public streets are designed and managed (including signals and regulations) to accommodate comfortably and safely, public transit, cyclists, pedestrians, and automobiles as complementary forms of transportation. The integrated transportation system gives access to all basic needs. Public transit provides all citizens with easy access to activity areas, as well as, to neighbouring communities and cities via convenient and frequent inter-urban transit. Most people can walk or cycle to work because jobs and housing are near one another. Major roads have minimal noise and pollution impacts on adjacent lands, and follow routes that cause little damage to the natural and human environment."

Development of the implementation strategy was also guided by the following statements adopted by Regional Council in April, 1992 as a framework for the preparation of the Hamilton-Wentworth Official Plan.

'Regional Interest:

Providing for an integrated Regional transportation system which stresses easy pedestrian, transit and vehicular access to all basic needs.

Regional Role:

- *Emphasis to be placed on pedestrian movements through the establishment of land use patterns which create opportunities for walking to work and other activities;*
- *Providing a public transit system which serves Hamilton-Wentworth in an affordable efficient and accessible way, stressing easy access to activity areas;*
- *Providing inter-city transit/transportation connections to neighbouring communities;*
- *Providing and maintaining Regional roads to accommodate the safe and efficient movement of people and goods;*
- *Promoting the use of bicycles as a mode of transport as well as for recreation and the establishment and maintenance of a bike route system throughout the Region; and*
- *Reflecting the principles of sustainable development in the planning and provision of transportation services in the Region." (Economic Development and Planning Committee Report PLA-92-041).*

1.1 Goals and Principles

Sustainable development is seen as a positive change which does not undermine the environment or social systems. It requires the integration of environmental, economic and social decision making.

Transportation is defined in the broadest terms. It includes both nonvehicular and vehicular modes of transportation together with the infrastructure necessary for their use.

From "VISION 2020" the implementation team agreed upon the following goals and principles as the focus for the preparation of the strategy.

Goals

- to develop an integrated transportation system for people, goods, and services which:

meet community needs;
provides for the safe movement of the public; and
is environmentally friendly, affordable, efficient, convenient and
accessible;

- to increase the utilization and supply of alternative modes of transportation, such as, walking, cycling, and public transit;
- to ensure efficient use of existing resources and infrastructure; and
- to ensure the best utilization of available public funds.

Principles

- the basic purpose of a transportation system is to support the social and economic activities of our community;
- transportation policies must be sensitive to both the natural and community environment;
- transportation policies should focus on managing rather than accommodating traffic growth;
- transportation and land use planning must be coordinated;
- transportation and urban development should be designed on the basis of this order of transportation priorities: walking, meeting the needs of people with disabilities, bicycling, public transit, goods movement, and private motor vehicle; and
- all people should have access to an equal standard of transportation service.

2.0 Creating a More Sustainable Transportation System

To achieve the desired goals, the implementation team has outlined a series of actions and policy directions required, to encourage people to make use of more sustainable modes of transportation.

The report begins with a discussion on the relationship between land use patterns and automobile usage. The focus is on the need to link land use and transportation planning, in order to achieve a sustainable community. Part two focuses on the design of roads and streets while part three discusses the mechanisms available to encourage people to use more sustainable modes of transportation - walking, cycling and public transit. In part four, suggestions are made about the information and incentives needed, to encourage people, to make the required lifestyle changes for a sustainable community. Concluding the report, is a brief discussion on the changes needed to implement the recommended policy directions.

2.1 Land Use Planning and the Motor Vehicle

"A city's land use defines its transport system more than any traffic planner or engineer can. The pattern of urban development dictates whether people can walk or cycle to work or whether they need to travel dozens of kilometres; it determines whether a new bus or rail line can attract enough riders. In short, a city's transport system functions better if things are closer to home. By failing to see land use planning as a transportation strategy, many of the world's cities have allowed the automobile to shape them" (Lowe, 1992. *"Alternatives to Sprawl: Shaping Tomorrow's Cities"*, **The Futurist**. Vol. 26, No. 4, page 30).

The availability of the private motor vehicle has dramatically changed the land use pattern and physical design of our cities. The strip plaza, drive through restaurants, huge parking lots, separated land uses, urban sprawl, large freeways, etc. are all the result of planning to accommodate the car. "Unless we reverse the land use policies that make car use so necessary in the first place, the other efforts (i.e. promoting public transit and cycling) will have little impact" (Fowler, 1991. *"Land Use in the Ecologically Sensible City"*, **Alternatives**. Vol. 18, No. 1, page 28).

Current Status

The responsibility for land use planning and transportation planning is scattered among many regional and area municipal committees and departments.

Assuming recent residential development densities, there is an estimated 15-20 year supply of vacant designated urban residential land in Hamilton-Wentworth. In addition, there is an estimated 57 year supply of vacant designated industrial land (*Vacant Urban Residential Land, Fact Sheet & Industrial Land Development, Fact Sheet*).

Between 1986 and 1991, total farm acreage in Hamilton-Wentworth dropped by 6,700 acres from 145,083 to 138,382 acres. The majority of this land was probably lost to urban development (Flanders, July 10, 1992. "*The Vanishing Farm.*" **The Hamilton Spectator.** page A1.).

Only 15% of single detached houses built between 1961 and 1970 are over 2,000 square feet. Of all single detached houses built between 1986 and 1988 almost 59% are over 2,000 square feet (*Residential Building Profile, 1990*)

The average number of cars owned by a household in Hamilton-Wentworth increased from 1.1 in 1980 to 1.4 automobiles to every household in 1986 (*Land-Use and Transportation Fact Sheet, page 3*).

The majority of people living in Hamilton-Wentworth are employed at a business located in Hamilton-Wentworth. In 1986, over 84% of the estimated 190,000 daily commuter trips in Hamilton-Wentworth, occurred within the Region's boundaries (*Land-Use and Transportation Fact Sheet, page 4*).

Issues

Coordination between land use and transportation services planning is necessary to fulfil the requirements of sustainable development.

Several area municipalities have plans to increase the size of their designated urban areas, even though there appears to be more than an adequate supply of land available for development purposes.

A segregated, low density land use pattern results in the need for everyday usage of the private motor vehicle.

Over the last 10 to 15 years there has been a significant reduction in the number of air pollution index warnings due to industrial emissions in Hamilton-Wentworth. The majority of air pollution index episodes above the warning level have been the result of vehicle emissions. In order to improve the quality of air in Hamilton-Wentworth greater attention must be paid to motor vehicle sources of gaseous pollutants (*Hamilton-Wentworth, State of the Environment, 1990*).

Technological change resulting in improvements in vehicle emissions and fuel efficiency are being off-set by increased usage of the private motor vehicle.

Land use planning policies must reflect the goal of reducing the volume of motor vehicle traffic.

The availability of cheap all-day parking in high density employment centres discourages people from using alternative modes of transportation.

Goals

To ensure the integration of land use and transportation services planning.

To ensure land use planning guidelines support the use of more sustainable forms of transportation.

To encourage and facilitate the everyday use of sustainable forms of transportation, such as, walking, biking, and public transit.

Principles

The adequacy of transportation facilities and frequency of public transit service depends almost completely on the density of the residential and employment areas being served.

Providing for and encouraging a more compact mixed land use pattern will better support the use of more sustainable modes of transportation.

The density and location of new residential and commercial/industrial development combined with physical design, will to a large extent determine future levels of public transit usage and other forms of transportation.

Recommended Actions

Supportive Land Use Planning Policies

- target average population density for the designated urban area of the Region, that will achieve a high level of public transit usage. Expansion of the urban area should only be considered when the urban area begins to approach this targeted population density.
- develop policies which support and encourage a more compact urban form and which allow for increased diversity and density.
- locate high traffic generating land use activities close to public transit corridors and stations.
- locate new commercial development in more concentrated nodes rather than in low density strip developments along arterial roadways.
- develop an initiative similar to the Main Street housing program in Toronto (increased residential development above commercial strips along transit corridors) for Hamilton-Wentworth.
- designate the suburban industrial-business parks as mixed use centres allowing residential, commercial, institutional and light industrial land uses.
- develop guidelines for the physical design of neighbourhoods that ensure quick and easy pedestrian access to transit stops. The design should be based on a maximum 400 metre walk to a transit stop.
- increase the supply of housing in the Regional Centre, in order, to reduce the number of people commuting into this area.

Parking Management to Reduce Motor Vehicle Usage

- request the Federal Government to change appropriate legislation to either make free parking a taxable benefit or make free transit passes a non-taxable benefit, or both.
- change appropriate zoning by-laws to include a maximum not just a minimum parking requirement.
- change appropriate zoning by-laws to allow the exchange of required parking, for programs provided by the developer, such as, promotion of car pools, provision of free transit passes for tenants, and provision of bicycle parking facilities.
- request the Province of Ontario to revise appropriate legislation, so that parking lots are taxed according to their development potential.
- direct the Hamilton Parking Authority to develop a pricing structure which discourages all day parking while meeting the needs of other uses.
- direct the Hamilton Parking Authority to provide preferential high occupancy vehicle parking and rates.
- direct the Hamilton Parking Authority to develop a plan for the provision of parking which reflects the actions needed to promote a sustainable transportation system.
- enforce resident permit on street parking in residential areas.
- develop parking at strategic locations to link with public transit, in order to enhance public transit usage and reduce commuting into the Regional Centre.
- ensure the costs of using public transit are significantly lower than driving and parking in the Regional Centre.
- ensure parking areas, in particular multilevel and underground parking areas have safety features, such as alarm systems, video surveillance, and lighting.

The Region and Area Municipalities take a Leadership Role

- provide incentives which encourage employees and councillors to make use of alternative modes of transportation and reduce the number of motor vehicles on the road. Possible actions include:
 - offering free transit passes rather than free parking;
 - encouraging ridesharing, car pools, and shared taxis by offering a matching service for employees;
 - offering flexible work hours, such as, a compressed work week, a work at home policy, and telecommuting;
 - paying employees a mileage rate for using a bicycle in the same manner as, for using a private motor vehicle;
 - requiring employees to use public transit when going to meetings, etc. within the urban transit service area; and
 - adding bicycles to the municipal vehicle fleet.
- encourage private companies to adopt similar programs for their employees.

Reducing the Amount of Motor Vehicle Emissions

- investigate the possible use of road pricing or tolls for geographic areas, such as the Regional Centre. All fees collected should be used for development and improvement of public transit.
- develop and enforce a bylaw restricting unnecessary idling.
- review the location and placement of stop signs, to determine their necessity.
- develop a plan for converting all municipal vehicles to less polluting forms of fuel, such as, natural gas, gasohol, and solar powered vehicles.

The Region and Area Municipalities could develop a partnership with McMaster University for research and development of alternative fuels. A possible action includes using municipal vehicles for the demonstration of alternative fuels. This would develop a partnership which could result in further research and development on alternative fuels, and promote Hamilton-Wentworth as a world leader. (economic development)

2.2 Roads and Streets

The movement of people and goods is an essential component in planning for the future of Hamilton-Wentworth. The location of major roads and basic infrastructure (sewers and watermains) establishes the overall structure of a community.

Roads are the most important component to the Region's transportation system. In addition to the movement of people, goods and services, roads provide a right-of-way for municipal services, utilities and emergency vehicles.

Current Status

The Region's Official Plan (Policy 9.2.2) classifies roads into a general three step hierarchy.

- Inter-regional Highways - the primary function is to carry long distance traffic into, out of, and through the Region. Most of these roads fall under the jurisdiction of the Provincial government.
- Arterial roads - the main function is to carry relatively high volumes of long distance traffic within, between or through the Area Municipalities and to provide access to inter-regional roads. Most of these roads are the responsibility of Regional Government.
- Collector or local roads - the main function is to provide local access and to provide access to arterial roads. Most of these roads are the responsibility of the Area Municipalities.

The Region has begun construction on the east-west link of the Red Hill Creek Expressway. Studies are being conducted on possible alternative routes for the north-south link for this freeway.

Studies are being prepared for the development of the Perimeter Road linking the Bayfront Industrial area with Highway 403.

Funding for road construction and maintenance comes from Provincial, Regional and Area Municipal Governments. Approximately 30% of the Region's annual consolidated expenditures are allocated towards transportation, which includes both public transit and roads.

Issues

An excess volume of traffic creates noise and other stress factors for residents.

Existing streets should accommodate other modes of transportation, such as, walking, cycling and public transit.

Priority should be on maintaining the existing road infrastructure.

The demand for low density housing, results in the need for private auto usage which results in large municipal expenditures in road construction and maintenance.

Goals

To provide a regional road network which will support the economic and social needs of the community.

To develop roads and streets which meet the needs of alternative modes of transportation, such as, walking, cycling, and public transit.

Principles

Road design should provide for the safe and efficient movement of all road users.

Road design should consider the affect on surrounding land uses, aesthetics, and on cultural-historical and archaeological resources.

Streets must be able to accommodate a multitude of activities (ie. socialization, relaxation, market activities, forum for political action, etc.) while still providing for movement.

Recommended Actions

The Regional Road Network

- provide a basic network of truck routes that facilitate the efficient movement of goods within the Region and to/from the Provincial highway system and which also provide direct access to industrial areas within the Region while ensuring a minimal effect on residential areas.

- 9
- provide a continuous network of arterial roads which allow for the efficient movement of vehicular traffic between activity centres and which offer convenient access to the local street system and to the Provincial highway system.
 - divert through traffic away from the regional centre and other major activity centres.
 - accommodate, when appropriate, the pedestrian, cyclist and public transit, as well as, vehicular traffic.
 - ensure access from major Provincial highways to the Region's urban area above the escarpment and to the Bayfront industrial area.

Road Design and/or Construction

- use, whenever possible, local products and companies.
- design major roads to provide a reasonable amount of buffering from residential areas.
- construct regional roads to provincial and national design and safety standards.
- provide, according to the speed limit and amount of traffic on the road, appropriate separation between pedestrian, cyclist and motor vehicle.
- use local trees and vegetation for landscaping.

Suggested that use ground cover roses as an appealing low maintenance road side plant. These plants discourage weeds and hold the earth on steep embankments. The visual appeal could engender in visitors and citizens a different image of Hamilton-Wentworth. Also affords a potential economic development for the Royal Botanical Gardens through a joint venture between the RBG and the region for the development and sales of plants both inside and outside the region. (economic development)

Streets

- design streets to match to human behaviour, ie. no unexpected changes in levels of sidewalk, little clutter, have audible street crossings, and be cleared of snow.
- separate pedestrians from motor vehicle traffic, in major activity centres, with things, such as trees and wide sidewalks.

- accommodate people with mobility impairments, by ensuring all poles, posts, hydrants, garbage receptacles, newspaper boxes and benches are situated on boulevards, leaving sidewalks for free and unimpeded travel by people with mobility disabilities.

2.3 Alternative Modes of Transportation

Although there is a variety of modes of transportation, this section of the report focuses on three types - walking, cycling and public transit. The purpose, is to recommend actions and policy directions which, over the long term, will encourage people to use these modes of transportation rather than the car.

2.3.1 The Pedestrian

In the past few decades, our lifestyle has become increasingly centred on using the automobile for work, play and daily living. Today the changing economics of car ownership, combined with a greater awareness of the negative impact of the automobile on the environment, has led people to look to alternative means of transportation. Walking as a mode of transportation offers a number of benefits to both the individual and the community.

Current Status

In the construction and maintenance of arterial roads Regional Government is only responsible for the road itself. Section 35 of the Act to Establish the Regional Municipality of Hamilton-Wentworth states that:

"The Regional Corporation is not by reason of a road forming part of the regional road system under this Act liable for the construction or maintenance of sidewalks on any road or portion thereof in the regional road system, but the area municipality in which such sidewalks are located continues to be liable for the maintenance of such sidewalks and is responsible . . . has jurisdiction."

Issues

The division of responsibility can increase the cost of construction, in particular, sidewalk construction.

The potential for different standards of sidewalk construction between area municipalities creates accessibility problems for people with disabilities.

Current street and sidewalk design does not always make adequate provision for the creation of a pedestrian friendly environment and ensurance of unimpeded movement and access by people with disabilities.

Goals

To encourage and facilitate walking as a primary mode of movement.

To develop a sidewalk/walkway system, in conjunction with roads and public transit,

- that provides the necessary framework for accessible, safe, and enjoyable pedestrian movement, and
- which meets the needs of all citizens (ie. frail elderly persons; people who use mobility aids; and people with impaired vision).

Principles

A well designed and planned pedestrian network, will support walking as the most, basic environmentally friendly mode of transportation.

A pedestrian oriented community is a more humane place to live.

Increased pedestrian activity discourages vandalism and crime.

Walking as a mode of transport provides health benefits and encourages a healthy lifestyle.

A safe sidewalk system that accommodates motorized wheelchairs and scooters, allows increased freedom and independence for people with disabilities.

Recommended Actions

Sidewalk construction and design standards

- construct sidewalks on both sides of the road, to provide for continuous movement from origin to destination. (Fractured sidewalk construction is not only unsafe but discourages people from commuting on foot.)
- ensure sidewalks continue into shopping plazas, recreation areas and other similar public complexes to provide a distinct and safe pedestrian access to these areas.
- provide temporary sidewalks in developing areas.
- ensure construction materials are selected for both comfort and safety.

(Although asphalt provides a more cushioned walking surface it does not provide the colour contrast between path and road that is important to people with reduced vision. Interlocking brick, although aesthetically pleasing, provides an uneven surface that is also a problem for people with sight impairment, and people who are not steady on their feet. People have more difficulty moving a wheelchair over bricks and the jarring effect causes severe discomfort.)

- ensure sidewalks are of a sufficient width to comfortably accommodate the degree of pedestrian traffic.

(Ideally a small group should be able to walk together in conversation and allow those travelling in the opposite direction to pass without stepping off the pavement. Suggested that the minimum width of sidewalks be increased to 2 metres (6.5 feet). Annual review of sidewalks should examine traffic flows and the need for increased sidewalk width.)

- construct at every intersection the ramps, with no lip, needed by wheelchair assisted travellers. (The report 'Approaching An Accessible Community' provides design and placement standards.)
- eliminate the mountable curb.

(This design presents many problems to pedestrians. It is not easily crossed by people with unsteady balance, by people with impaired vision, by people in wheelchairs, by baby carriages or even by some lowslung automobiles.)

Pedestrian safety

- clear all sidewalks, ramps and crosswalks of snow and ice within a twelve hour period after a storm.
- develop exclusive pedestrian links, such as, plus fifteens in areas of high pedestrian activity and high vehicular traffic.
- enhance pedestrian safety, at busy intersections, through the addition of pedestrian activated traffic lights, well placed and marked pedestrian crossings, and a pedestrian refuge in the form of an island or median.
- identify walkways that cross vehicular lanes with changes in paving materials, signs or built elements, such as canopies and arches.
- reduce speed limits for motor vehicle traffic in areas of high pedestrian activity.
- provide a distinct separation of vehicular traffic and pedestrian.
- provide appropriate street lighting that extends the safe walking time well after dark.

Designing a Pedestrian Friendly Street

- locate buildings at the minimum setback line with the maximum length of the building facing along the street (streetfront). This will:
 - provide for frequent and convenient pedestrian connections between buildings and the public sidewalks;
 - provide an interesting and attractive edge to the public sidewalk;
 - provide weather protection; and
 - provide a continuous edge along the street to visually enclose and define a public street that is comfortable to the pedestrian in its proportions and scale.

- design store fronts with overhangs that shelter people from snow, rain or harsh sun.
- develop a streetscape that is visually appealing and makes walking more inviting.

(The addition of well chosen trees that can tolerate a concrete environment and car exhaust, is not only attractive but provides shade in summer and improves the air quality. Benches placed at intervals along the street and at waiting places such as bus stops allow for a place to pause and rest and encourage walkers of lesser physical fitness. The placement of benches should be carefully considered with regard to safety, (not too close to the road) and taking advantage of the sun's warmth in winter and shade from the sun in summer. Waste containers that blend with the streetscape but are convenient to use will encourage pedestrians to keep the street litter free.)

- develop a policy which ensures a clear path for unimpeded travel by pedestrians and people with mobility disabilities. (ie. the placement of objects, such as, moveable signs, sandwich boards, newspaper boxes, poles, posts, hydrants, garbage receptacles, and benches).
- develop pathways that provide shortcuts to things, such as, transit stops and corner stores. These paths need to be highly visible and well lit with safety a strong concern.
- close streets, in areas of high pedestrian activity, to motor vehicle traffic, or design the streets to slow and reduce the amount of motor vehicle traffic.

2.3.2 The Cyclist

Ontario is experiencing significant increase in bicycle use, especially by adults. Dedicated adult bicyclists use their bicycles to commute to work and make other utilitarian trips year round. An initiative has been taken by the Ministry of Transportation, Ontario to review and update its 1981 Bicycle Policy as a result of "environmental concerns, indications of increased usage, safety and public interest".

The Region has acknowledged that bicycling is an essential form of transportation for many. Economic and environmental concerns have helped to put bicycling into a new light. The benefits of bicycling address many of the most difficult problems relating to urban transportation. With the right motivation, a more significant proportion of the population would use their bicycles to travel to work, school, for shopping and recreation.

The use of a transportation mode is influenced by the public's perception of the advantages and disadvantages of that particular mode. Major incentives and disincentives to bicycle usage are as follows:

Incentives	Disincentives
<ul style="list-style-type: none"> • Promotion of health and fitness • Reduction in pollution • Savings in energy consumption • Door-to-door transportation • Speed comparable to other modes operating in urban areas • Relatively low costs • Easy storage 	<ul style="list-style-type: none"> • Personal safety • Weather conditions • Security (parking) • Social acceptance • Parcel carriage

Current Status

In the Spring of 1992, the Hamilton-Wentworth Regional Bicycle Commuting Network Study was adopted by Regional Council. The study focus was on utilitarian cycling. The study report contains an implementation schedule for the next 5 years.

Regional Council has approved a 1992 budget of \$350,000 for bicycle programmes and facilities. This budget is part of the overall road budget.

Since 1984, the City of Hamilton has been implementing a bikeway system.

In 1992, the Town of Ancaster completed a recreational bicycle plan. The City of Stoney Creek and the Town of Dundas are preparing similar plans.

The Region is currently preparing a Network User Map of recreational and utilitarian cycling routes. This map will incorporate the plans of the area municipalities.

Issues

Safe sharing of roadways by motorists, cyclists and pedestrians.

Lack of education and enforcement of traffic rules.

Planning of subdivisions without proper account to non-motorized vehicles.

Lack of secure bicycle parking facilities.

Disjointed sections of bike routes.

Bicycles are considered toys by many people.

Goal

To encourage, increase and facilitate the use of bicycles as a mode of transportation by fully integrating the bicycle in the existing transportation system.

Principles

Bicycle facilities are an integral part of the overall transportation network.

Bike routes should be safe and continuous; direct routes are required for commuters.

People should be properly educated in driving bicycles.

Facilities should be designed, installed and maintained in accordance with generally researched and accepted principles.

Bicycling requirements should be part of land use planning policy.

Provision of bicycle programmes and facilities should be a coordinated effort between the Region, area municipalities, and boards of education.

Recommended Actions

Education and Promotion

- develop a campaign to promote the benefits of cycling.
- support all forms of legitimate bicycle use, whether utilitarian or recreational through regional and municipal initiatives.
- engage the various Bike Committees in public awareness, promotion and education.
- encourage instructional initiatives, specifically, on-road training for cyclists.
- encourage the use of helmets.
- enforce safe bicycling.
- petition the Provincial Government and quasi-public agencies such as railway companies, GO Transit and Ontario Hydro to assist.
- encourage schools to provide on road education about safe cycling.

Facilities

- ensure implementation of the 5 year regional bicycle route network plan.
- provide 4.25m curb lanes, where appropriate.
- construct paved shoulders, where appropriate.
- ensure correct installation of catch basin grates.
- provide consistency in signage throughout the Region.
- review all stop signs along proposed bike routes.

- ensure regular street cleaning, particularly, after winter.
- investigate the use of bike racks on buses to facilitate Escarpment crossings.
- provide lanes and pathways for cyclists and pedestrians in new neighbourhoods.
- provide incentives for the provision of bicycle parking.
- provide sheltered secure places for bicycle parking in municipal parking lots.
- provide bike stands in high activity areas as part of sidewalk construction programs.
- revise appropriate zoning bylaws to include a minimum amount of bike parking as part of new commercial/institutional development.

2.3.3 Public Transit

Public transit is a more effective and efficient way of moving people within our community than the private motor vehicle, when all costs are considered.

Transit is more:

- space-efficient than the automobile;
- energy-efficient than the automobile;
- "cleaner" than the automobile;
- cost-effective to provide and use than automobile facilities;
- equitable, as provides mobility for all members in society;
- pedestrian oriented than the automobile; and
- sustainable form of transportation than the automobile.

Current Status

Region Council has sole authority to provide public transit services within the designated Urban Transit Service Area. This area generally includes:

- city of Hamilton;
- town of Dundas;
- all of Stoney Creek north of escarpment and portion of Stoney Creek south of escarpment and west of Highway 20;
- small portion of Glanbrook north of Twenty Road;
- urban portion of Ancaster; and
- the village of Waterdown.

Public transit services are provided to the general public by the Hamilton Street Railway (HSR), a Department of the Region.

Public transit services for people with disabilities are provided by D.A.R.T.S., a non-profit corporation, under a contractual agreement with the Region.

Funding for the provision of public transit services is provided by users of the service, municipal tax levies and Provincial grants.

The level of public transit service within the Urban Transit Area (i.e. The City of Hamilton) is determined by Regional Council while the level of service to each of the other Regional Municipalities is determined by that Municipality. Each of these municipalities pays HSR for the net cost of the service provided.

HSR will carry about 24 million trips in 1992 or about 82,000 trips on a typical weekday. About 10-12% of weekday peak period trips in the Region use public transit.

HSR ridership has been declining since about 1986. In 1986 HSR carried about 32 million trips. The ridership decline is related to a number of external factors:

- Aging population.
The number of people in the Region in the mid-teens to mid-twenties age group has declined. This age group has the highest rate of public transit use.
- Higher unemployment.
The recent recession has resulted in reduced work trip activity.
- Land use patterns.
Trends to outlying lower density residential development reduce the level of transit use.

GO Transit has announced plans for a new station in downtown Hamilton with improved train service. Discussions are underway on development of a high level of integration between HSR services and GO services, as well as surrounding land use and other transportation facilities, such as pedestrians and cyclists.

Various initiatives under the Easier Access program have been undertaken to improve accessibility to HSR services for elderly and handicapped persons.

D.A.R.T.S. has approximately 10,000 registered users at present and will provide about 550,000 trips in 1992. These users are persons unable to use regular HSR services.

The Region is currently carrying out a Study of Transportation Services for Disabled Persons with a view of developing a comprehensive plan for provision of public transit services.

Issues

The declining ridership of HSR services during the past 5-6 years.

Increasing costs of providing a convenient and affordable public transit service to urban areas of the Region requires a significant commitment of public funds.

Services for people with disabilities and for frail-elderly people are very limited and do not provide the level of travel mobility which these people need.

Transit service is limited in outlying residential areas of the Region's urban area (eg. Ancaster, Waterdown) and in newly developing areas. This reduces the incentive for residents of these areas to become regular transit users.

Land use plans (eg. density and location of development, layout of major developments) and transportation management policies (eg. parking price and availability in CBD, roadway priority for transit) are not strongly supportive of public transit use.

Greater use of public transit as an alternative to private automobile use can significantly reduce the level of air pollutants emitted in the urban area. Also, public transit is a more energy efficient mode of transportation than private automobile.

Other services to can suffer if there is inadequate public transit. For example, many organizations depend upon public transit to move their workers about the community.

An aging population will result in an increased demand for special needs transportation services, in particular after the year 2011 when the first of the baby boom reaches age 65.

Goals

To provide a basic transportation service within the urban area for persons who do not have alternative means of travel available.

To provide a safe, fast, efficient service that is attractive enough to increase the number of people using public transit and decrease the number of people using cars, in particular for people driving from home to work and back.

To provide a transportation service for people with disabilities which is comparable to regular public transit in order to ensure an equal level of accessibility and mobility for all members of the community.

Principles

The Region must be proactive in improving the utilization of public transit in the community.

Public transit services must be available throughout the urban area of the Region with convenient, direct service to major activity centres.

Users cannot be expected to pay the full cost of public transit. As public transit is of benefit to the whole community, funding for an appropriate level of public transit should be provided by the Community.

Recommended Actions

Supportive Land Use Policies

- increase the density of land use, particularly residential developments, in order to facilitate the provision of convenient, affordable and efficient public transit service.
- place greater emphasis on the pedestrian, cyclist and transit accessibility in the planning of new developments.
- coordinate subdivision planning for new areas with transit services so as to ensure appropriate roadway facilities for bus operations with good connecting links for pedestrians and cyclists from the surrounding neighbourhood. Transit stops should be no more than a 5 minute walk.
- ensure, during the planning stages, the integration of provision for bus services with major new developments in the Regional Centre, Regional Sub-Centres, and Area Municipal downtown cores.

Other Supportive Policies

- reduce the amount of free or low cost all day parking in areas well serviced by transit (i.e. Regional Centre, Regional Sub-Centres), to provide a greater incentive for public transit use.

- discourage free employee parking in geographic areas where a reasonable level of public transit service is available.
- provide sufficient municipal funding for public transit on an ongoing basis to ensure that a convenient, attractive service is provided to all parts of the urban area at a reasonable cost to transit users. Consideration should be given to developing a transit levy or increasing the share of the transportation budget given to public transit.
- give priority to public transit over private motor vehicles, to use public road space in areas of traffic congestion.
- give priority to buses when they are pulling away from bus stops into traffic.
- integrate, where feasible, school transportation needs with public transit services.
- pursue a policy of actively encouraging the use of public transit as an alternative to private automobile uses.

Improving Transit Service

- improve the level of public transit to outlying communities in the Urban Area (eg. Heritage Green, Hamilton South Mountain, Ancaster, Waterdown), in order to encourage greater use of transit in these areas.
- develop transit Park-and-Ride facilities in strategic locations, in order to encourage longer distance commuters from outside the urban area to use public transit.
- investigate and possibly demonstrate innovative forms of service, such as Paratransit operations with smaller vehicles, for low density residential areas.
- integrate Regional transit services with GO Transit, in order to encourage greater use of transit for inter-regional commuters.
- pursue continued utilization of alternative fuels and improved bus technologies, in order to reduce air quality impacts of transit vehicles and to improve operating efficiency.

- develop transit service guidelines to support ongoing service planning and evaluation activities.
- expand the Urban Transit Area to include the entire designated urban area. This would eliminate the problem of Area Municipalities changing their level of funding from year to year.

Greater Accessibility to Public Transit for People with Disabilities

- develop a comprehensive plan for improvements to the transportation services available to people with disabilities that will result in these persons having a level of mobility equivalent to the general population.
- investigate and demonstrate community bus services designed specifically to accommodate the special needs of elderly persons and people with disabilities.
- develop a long term plan for the integration of transit service for people with disabilities with regular public transit.
- make available in large print, braille and audio tapes all information on accessible transportation.
- make signs and other information at bus stops easily seen by using large print.
- provide at bus stops pavement at the entry and exit points of the bus so that people with mobility impairments, people using wheelchairs and the frail elderly will have easy access.
- include in bus shelters a display of service hours, frequency of trips and schedule indicating frequency of wheelchair accessible buses.
- make bus shelters wheelchair accessible.
- design bus shelters with public safety in mind.

2.4 Public Information and Lifestyles

A key component to achieve the sustainable transportation system is a campaign to inform people about the economic, social and environmental costs of using private motor vehicles, and also to the benefits of using alternative modes of transportation.

Goals

To encourage a shift in lifestyle and behaviour towards transportation choices with the lowest environmental impact.

To raise the level of awareness of sustainable transportation practices.

To encourage a joint ownership of the problem and methods necessary to achieve sustainable transportation.

Principles

Regional Government must provide strong leadership in developing and organizing any public information campaign about sustainable transportation practices.

Regional Government's role includes: coordination and support; informing the public; providing incentives; facilitating public involvement; and leadership through example.

Recommendations

- develop a public education campaign which incorporates the components identified by the City of Toronto, Healthy City Office in its report, *"Evaluating the Role of the Automobile: A Municipal Strategy"*:
 - provide facts about the consequences of a behaviour/lifestyle, and its negative effect on the health of individuals and the community.
 - provide information about what individuals can do, and how individual action can make a difference.

- provide a range of options, allowing individuals to change their behaviour, according to what is possible for them.
- provide incentives which reward responsible behaviour.
- identify a leader and role models who demonstrate what is possible.
- facilitate group participation (employee, students, community groups, families) in establishing realistic goals.
- allow ongoing feedback and encouragement, including public assessment of results.
- focus activities at the community level through local citizen's organizations, neighbourhood groups, and personal contacts, and ongoing evaluation at that level.
- create coalitions among a diversity of public and private sector organizations to support a common objective.
- maintain messages that foster public awareness and support for legislative changes aimed at mandating desired behaviour changes.
- develop consistent messages that are delivered by a variety of public and community agencies.

3.0 Implementation

Probably the most important aspect of any plan is the process of implementation. It is imperative from the beginning that all on-going work by the Region, the Area Municipalities, and other jurisdictions, including private and governmental bodies, be made aware of the long term direction presented in this report.

Initial focus for implementation must be on introducing the recommended policy directions into the Region's Official Plan, the Area Municipal Official Plans, the secondary/neighbourhood planning processes and other planning documents. Focus must also initially be placed on preparing a long term transportation plan for the Region which reflects the goals, principles, and recommended actions of this report. The transportation plan should, in particular, reflect the ultimate goal of reducing the number of trips made in private motor vehicles.

Implementation of the actions recommended in this report must also be sensitive to the fact, that alternatives to using the private motor vehicle must be in place before actions are taken to discourage people from using the car. Public transit must offer a service which will provide efficient and convenient service, while changes need to occur to ensure bicycling and walking are safe and viable.

Recommended Timetable

Immediate

- Region and Area Municipalities to amend their Official Plans to include the recommended policy directions.
- Region to develop a 20 year regional transportation plan for incorporation into the Region's Official Plan which is guided by this report and which reflects the principles of sustainable development.
- Region to continue to implement the recommendations of the Regional Bicycle Network Study.

Short Term - 1 to 5 years

- Increase the budget allocation for Public Transit.

- Initiate public information program.
- Prepare parking management plan.
- Initiate actions which result in Regional Government setting an example to the community.
- Begin integration of transit services for people with disabilities with regular public transit services.

Long Term - beyond 5 years

- Initiate a phased implementation of suggested actions, which act as disincentives for use of the private motor vehicle (i.e. increased parking fees, tolls, revised property taxes, etc.).

Financial Considerations

The development of an integrated transportation system which is environmentally friendly, affordable, efficient, accessible and convenient is dependent upon recognizing the relationship between land use patterns and the costs of providing the transportation infrastructure. Low density suburban sprawl is expensive to service, both in the construction of new roads and public transit and the maintenance of this infrastructure. The development of land in an orderly more intense fashion will ensure the construction of a transportation infrastructure which is affordable to the present and future residents of Hamilton-Wentworth.

The recommended actions will also require a significant change in the way tax dollars are spent on transportation. Implementation of the recommended actions will require a shift in focus away from building and maintaining infrastructure which accommodates private motor vehicles to developing and maintaining infrastructure which accommodates alternative forms of transportation.

A Report
of
The Implementation Team
on
Natural Areas and Natural Resources

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

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Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the seven reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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EXECUTIVE SUMMARY

The Sustainable Development Task Force should recommend that **the Region:**

Recommendation One

Ensure, through cooperation with community groups and agencies, that the components of a natural heritage framework (primary and secondary core areas, buffers, natural corridors and natural connecting links as described by the Ministry of Natural Resources in The Natural Heritage Framework) are identified, researched and described. (See Definitions 3.1, Actions: 6.1 Goal 1, 6.3 Goal 1, 6.6 Goal 1, and Appendix D)

Recommendation Two

Base the funding for identifying, researching and describing the natural areas, links and corridors on partnerships between agencies such as the federal Fisheries Department and Wildlife Service, provincial government ministries, Conservation Authorities, and other public and private groups and organizations. (See Actions: 6.3 Goal 1)

Recommendation Three

Establish natural heritage designations in the Official Plan to recognize, and protect as appropriate, natural core areas, natural corridors and natural connecting links. Permit recreation or other land uses which do not cause significant negative impacts or threaten the integrity of the natural area over the long term within natural heritage designations of the Official Plan. Limit or prohibit human use where negative impacts or the long-term integrity of the natural area is a concern.

Establish an open, consultative process for broad public discussion on the Regional Official Plan policies for the designation and protection of natural areas. Consult with landowners as to the role of their property within the natural heritage plan. (See Actions: 6.1 Goal 9, 6.4, 6.9 Goal 2)

Recommendation Four

Develop, and circulate to interested agencies for feedback, a terms of reference for an acquisition fund for the purchase of lands either identified as significant natural areas or required to provide access to natural areas suitable for passive recreational use. The terms of reference should stipulate that:

- o the Region should commit a substantial amount to the fund on an annual basis.
- o the acquisition fund will be used when matching funding from other sources such as the Ontario Heritage Foundation, Nature Conservancy and

Conservation Authority Foundations is available and/or when groups such as the Bruce Trail Association/Naturalist Club participate in public fund raising efforts.

- o priority will be given to lands which are subject to development pressure because of their location adjacent to the existing urban area.
- o the program will be based on the principle of willing seller/willing buyer and any expropriation of land in natural areas should be considered in only the most unusual of circumstances.
- o development on lands purchased should be minimal, with facilities constructed only where a commitment to their proper maintenance is available (by government or non-governmental organizations (NGOs) such as trail clubs, etc.)
- o where access is permitted, users should be expected and required to uphold responsibility related to maintaining the integrity of the natural areas (eg. staying on trails).
- o where public works, such as parking facilities, must be established and maintained, opportunities for cooperative arrangements between public and private agencies should be explored.

(See Actions: 6.3 Goal 2, 6.3 Goals 2,3 and 8, 6.4 Goal 3, 6.8)

Recommendation Five

Encourage MNR and the CAs to establish a landowner contact program to encourage private stewardship for all natural areas, and provide assistance and support if requested. (See Actions: 6.4 Goal 3, 6.8)

Recommendation Six

Investigate a variety of options associated with title and purchase arrangements to be used to complement and enhance the proposed acquisition fund and proposed land owner contact program. Recommend techniques and procedures which may be used by the Region and/or other agencies involved in natural heritage planning or new organizational arrangements. (See Actions: 6.8, 6.3 Goal 2)

Recommendation Seven

Investigate the use of development charges as a source of funds for the acquisition of natural areas and/or the development of related facilities for a greenway system. (See Actions: 6.3 Goal 3)

Recommendation Eight

Request Area Municipalities to allow and encourage linear, passive space as part of the 5% park space dedication under the Planning Act, where such space is part of a network of natural areas, natural corridors and natural connecting links. (See Actions: 6.3 Goal 3)

Recommendation Nine

Request the Federal and Provincial government to permit personal tax deductions for donations of conservation land to public agencies, so that the full value of the asset can be deducted from personal income. (See Actions: 6.3 Goal 2)

Recommendation Ten

Request the Province to broaden the Conservation Land Tax Rebate program so that land designated by municipalities under the Planning Act is eligible. (See Actions: 6.5)

Recommendation Eleven

Establish, immediately, the Regional Environmental Office as proposed. Review existing staff resources, both numbers and qualifications, to determine if more staff is necessary. (See Actions: 6.2)

Recommendation Twelve

Request agencies involved in natural heritage planning to assign someone in their agency the responsibility of assisting in coordination of natural heritage activities between agencies in Hamilton-Wentworth. Identified individuals should meet on a regular basis. Coordination of activities (ie. programming or the production and distribution of information) should aim to sort out overlap, reduce redundant activities and establish cost sharing agreements. Establish a "Natural Heritage Committee" or "Ecological Advisory Committee" to help arrange agreement between agencies on research needs and protection measures. (See Actions: 6.2, 6.7)

Recommendation Thirteen

Request McMaster University and Mohawk College to establish a Natural Heritage Advisory Committee, with representation from agencies involved in natural heritage planning, to provide advice and guidance to graduate and undergraduate students interested in researching natural areas in Hamilton-Wentworth. (See Actions: 6.3)

Recommendation Fourteen

Support the establishment of a scholarship for ecological research, to be administered through the Conservation Authority foundations. (See Actions: 6.3)

Recommendation Fifteen

Review the Regional Tree-Cutting By-Law, and the methods now used to monitor and enforce tree-cutting measures, to determine if revisions to the by-law, procedures or organizational responsibilities are necessary for protecting wooded areas which form part of the natural heritage system. (See Actions: 6.5)

Recommendation Sixteen

Support the review of sediment and erosion controls on construction projects by Area Municipalities and Conservation Authorities and the potential use of Top-Soil Preservation By-Laws to effectively monitor and enforce compliance with Sediment and Erosion Control Plans. (See Actions: 6.5)

Recommendation Seventeen

Develop, maintain and make available a data base and mapping system to describe the natural areas, corridors and linkages in the Region (based on MNR's Natural Heritage Framework). (See Actions: 6.6, 6.9 Goal 1)

Recommendation Eighteen

Request school boards to increase the local natural heritage component of their curriculum, and encourage them to participate with other agencies, such as conservation authorities, in the development of the curriculum. (See Actions: 6.9 Goal 4, 6.10, 6.11)

Recommendation Nineteen

Request the Conservation Authority to take a lead role in developing a program of information and education for key decision makers in the Region. Groups such as corporate executives and politicians should be targeted, using examples which illustrate the relationship between an inter-connected natural area system and their interests as decision makers. (See Actions: 6.10, 6.11 Goal 5)

Recommendation Twenty

Establish an eco-tourism promotional campaign with assistance from the Ministry of Tourism, promotional tour operators and organizations interested in natural heritage. (See Actions: 6.11 Goal 6, 6.12)

1.0 WHAT WE WANT!

The purpose of this report is to present a strategy for achieving the goals of "VISION 2020" for the natural areas and resources in the Hamilton-Wentworth Region.

Vision 2020

The following passages from VISION 2020 are applicable to Natural Areas/Natural Resource concerns:

An Overview

In the year 2020, Hamilton-Wentworth is home to approximately 1/2 million people, living in a region made up of compact urban core areas, surrounded by a rural landscape that includes productive farms, hamlets and a continuous network of natural areas.

We are an environmentally conscious community where the existence of all living things is cherished and where all can breathe fresh air, swim in clean streams and lakes and have ample opportunity to observe and experience the wonders of the natural world.

The Landscape

The health and beauty of the countryside and townscape are a source of great civic pride. A protected system of natural areas threads throughout the region, preserving and improving our natural heritage. This system of natural areas and connecting corridors allows wildlife to migrate, enhancing their chances of reproducing and finding food and shelter. A recreational greenway gives residents access to this system of natural areas, in ways that do not threaten ecological processes. Recreation and the needs of wildlife for a protected habitat co-exist.

As a community, we cherish a clean, healthy environment and work to prevent ecological degradation. Waste-reduction, energy-efficiency and respect for ecological systems characterize all aspects of community life and decision making, including government, business and industry. Citizens abide by environmental laws and regulations and help educate each other on ways of living in harmony with the natural world. We are a model for other communities in the way in which we integrate short-term economic benefits, long-term environmental and social costs, and indirect economic costs in our evaluation of public and private initiatives.

Our Communities

Urban areas are laid out, and individual buildings designed and located, in ways that maintain community character, respect our cultural and natural heritage, and satisfy people's needs and desires. Urban development occurs within firm boundaries. Green corridors bring nature into the city, giving people easy and convenient access to the open countryside, natural areas and continuous public open space along the bayshore and lakeshore.

Getting Around

Major roads have minimal noise and pollution impacts on adjacent lands, and follow routes that cause little damage to the natural and human environment.

Livelihood

Hamilton-Wentworth is now home to a whole new economic sector based on the natural resources of the region. Burlington Bay is a base for nature-oriented tourism and recreation, that includes the Niagara Escarpment, waterfalls and Carolinian forest areas of the region. The harbour is a vibrant centrepiece for the community and is accessible, clean, and humming with diversity. Recreation co-exists with use of the harbour as an essential marine transportation link.

2.0 THE CURRENT STATE

Vision 2020 outlines a desire for an interconnected system of natural areas. Is this an achievable Vision? How much work and money will it take to achieve it? To answer these questions we first need to understand the difference between what we have now, or what we're doing now, and what it is we want to end up with.

In the first instance, Hamilton-Wentworth is blessed with many of the basic building blocks of such a system. Looking at an aerial photo of the Region it is fairly easy to pick out the "green" areas that represent trees on the Niagara escarpment, forest surrounding Cootes Paradise, large wooded rural areas, the forests and meadows of the Dundas Valley and the streams that arise in swampy, forested headwaters. A substantial portion of these areas are publicly owned and managed for precisely the same purposes as outlined in the Vision. Our existing planning systems generally require private landowners and government agencies to obtain approvals before carrying out building or construction projects that may impact on natural features.

For example, Official Plan designated Environmentally Sensitive Areas cover some

10% of the Region's total area. This Regional designation overlaps numerous other designations, or policy areas, and publicly owned natural areas, including: Area Municipal Official Plan designations and Zoning by-laws, Niagara Escarpment Plan and Development Control Areas, Conservation Authority flood plain and fill regulated areas, Conservation Authority lands, Royal Botanical Gardens property, cold water streams and fishery resource areas, Wetlands, provincially designated Areas of Natural and Scientific Interest, municipal trails, forestry tracts, and local parks.

The Planning Act, Ontario Water Resources Act, Conservation Authorities Act, Conservation Lands Act, Environmental Assessment Act, Environmental Protection Act, Tree Protection by-laws, the Ontario Heritage Act, the Woodlot Protection Act, Endangered Species Act, Fish and Game Act and Federal Fisheries Act, are just a few of the various pieces of legislation which are in place to encourage proper management and which try to prevent human activity which negatively affects areas that serve as habitat for various species.

Among all the agencies and levels of government there has been a growing commitment of staff and financial resources to environmental management concerns, including natural areas protection. Substantial investments of public money have been made in acquiring properties, in hiring staff to administer plans and regulation, and in developing education and recreation programming. Nevertheless, at the Regional level there is no plan which shows the various geographic areas as part of an interconnected Regional greenways system. Unless such a planning document is created, it will be impossible to compare over time whether the natural areas which form the individual parts of the system are adequately protected and connected. Likewise, without a comprehensive approach to mapping the features of the Region it is impossible to determine if new connections should be established. A comprehensive strategy for preserving the natural areas we have, and rehabilitating others, will require unprecedented levels of inter-agency and multi-disciplinary co-operation.

The destruction of wildlife habitat by human activities of all kinds is a continuing concern. Evidence of land use changes over the past decades indicate that forests and natural areas continue to face the threat of piecemeal encroachment at the expense of ecosystem health. Wildlife and plant species struggle to exist not only because their natural habitats are being destroyed but because pollutants in the water and air affects their health and reproduction. However, in recent years many improvements have been made which help control the contaminants humans put into the water and air.

Ongoing efforts to create a baseline inventory to understand and monitor natural areas in the Region are well underway, and show a commitment to inter-agency information sharing and the active participation of non-governmental agencies.

3.0 STRATEGY

In a paper entitled, *A Natural Heritage Framework, a strategy for protection and management of natural heritage in the Greater Toronto Area (hereafter referred to as the Framework)*, the Ministry of Natural Resources (MNR) provides Hamilton-Wentworth with a blueprint of the interconnected greenway system of natural areas we envisioned in VISION 2020.

The *framework*, consists of four components, natural core areas, natural corridors, natural connecting links and the interface zone designed with the guidance of eight basis principles.

The framework is far from perfect, reflecting our limited understanding of how ecosystems function. For instance, members of the implementation team have asked; how large does a woodlot have to be to allow sensitive wild life species to reproduce? or how wide should buffer areas be beside streams or adjacent to natural core areas? or how wide should linking corridors be? Ecology is a young science, perhaps at the stage the study of physics was at before Newton's laws. In an unsatisfactory manner, the answers to these valid queries take the form of more questions. What species are you planning the corridor for? How do these species interact with other species including humans? It is no solace to those used to working with linear equations and certainty that the ultimate answer is we don't know for sure, we have some theories, few long-term field studies and a general agreement that the complexity of ecosystems and species means that each situation must be evaluated individually.

While the complexity and lack of certainty is very real, the study of forest fragmentation, landscape ecology, the effects of stress on natural systems and the use of remote sensing from aircraft and satellites is increasing our knowledge base on how best to protect natural heritage. The implementation group asked the MNR to provide more detailed information on the reasoning behind the framework. They have done so and this information will be supplied to the planning department for use in writing the natural resources section in the official plan.

Therefore, the natural areas implementation team has adopted the *framework* with minor alterations to reflect local needs and conditions as a preferred method of implementing the vision.

3.1 Definitions

3.1.1 Natural Core Area

Any natural area defined by the Region of Hamilton-Wentworth, the Hamilton Region Conservation Authority or area municipality that provides significant natural heritage benefits.

From a Hamilton-Wentworth perspective this includes:

- Areas of Natural and Scientific Interest (life science and some earth science of provincial and regional significance);
- Environmentally Significant Areas designated by the Region as well as additional areas designated by area municipalities;
- All wetlands;
- Key fish and wildlife habitat (e.g. migratory waterfowl staging areas, colonial bird colonies, cold and warm water fisheries, deer yards);
- Significant woodlots (i.e. mature upland hardwood and mixed wood woodlots identified by the Ministry of Natural Resources);
- Significant species habitat in Hamilton-Wentworth.
- Niagara Escarpment Plan designated natural areas.

When dealing with a natural core area from a land-use planning perspective, it is often possible to think of the natural core area as three distinct sub-units.

3.1.2 Primary Core Area

The most significant and sensitive portion of the core where minimal human interference is desirable (e.g. nesting areas for certain species, endangered flora).

3.1.3 Secondary Core Area

Areas of the core which are significant yet may by their nature be more resilient to human incursion (e.g. controlled access through managed trails).

3.1.4 Buffer

A natural area intended to minimize potential conflict between human dominated landscapes and the more sensitive core areas. Buffers must be designed on a case by case basis by providing a natural separator and by rounding out irregularities and minimizing the length of interface with the human dominated landscape.

3.1.5 Natural Corridor

More or less linear natural areas following biophysical features such as streams, lakeshores and ravines.

In Hamilton-Wentworth these corridors include:

- river and stream corridors (e.g. Stoney Creek/Battlefield creek corridor);
- ridge lines (e.g. along the escarpment, moraines, beach ridges);
- shorelines (e.g. Hamilton Beach); and
- major slopes.

3.1.6 Natural Connecting Link

Natural areas that connect natural core areas.

In Hamilton-Wentworth these links include:

- Utility corridors (i.e. hydro lines, pipeline routes);
- Abandoned railway lines;
- Farm hedgerows;
- Roadside ditches;
- Other links (i.e. newly created linear links where none currently exist).

See Appendix D for a schematic presentation of the definitions and a hypothetical framework.

3.2 Natural Areas Database

The complex nature of ecology and our inability to understand its workings lead professionals in other sciences to think of ecologists as imprecise. They are right! Still, in the applied world of land-use planning, admissions of uncertainty do not mean that we cannot know, but that we must work hard to be as precise or as certain as we can possibly be. Land developers and environmentalists alike are owed at least this much.

We believe that the framework as it is explained and understood here and in the MNR document should be implemented in Hamilton-Wentworth by using all existing data from all available sources to identify the framework components, natural core areas (primary, secondary and buffer), natural corridors and natural connecting links, along with new data, compiled as required.

Using the framework, the implementation team has prepared examples of how it could be applied in four locations in Hamilton-Wentworth: Beverly Swamp, Jerseyville Woodlot/Big Creek, Ancaster Creek Headwaters and the Stoney/Battlefield Creek Valley (Appendix A).

3.3 Principles

In general eight basic design principles should guide decision-making about the boundaries of, and connections between the framework components:

1. Natural core areas are basic building blocks for a natural heritage system.
2. The bigger a natural area is, the greater biodiversity it is likely to have.
3. The more diverse the mixture of plant communities in a natural area, the more diverse are the plant and animal species and ecological processes in it.
4. Connected natural areas are more diverse than unconnected natural areas.
5. Water bodies should be incorporated into a natural heritage system wherever possible.
6. Natural areas which minimize length of interface with human dominated landscapes are generally less vulnerable to human intrusion than irregularly shaped natural areas.
7. All land area should be examined for opportunities to enhance natural heritage values.
8. All natural heritage systems are sensitive and complex ecosystems for which discrete protection and management plans should be prepared.

4.0 GOALS

The Implementation Team began its work of outlining an Implementation Strategy to achieve the Vision by reviewing the goals set out by the Working Group on Natural Areas. The following nine goals were reviewed:

1. All natural areas must be identified, researched and described. Constraint and possibilities for protection and development need to be identified. This information should be up-to-date, accurate and available to all individuals (whether they be citizens, politicians, scientists or business people).

2. In order to achieve the continuous greenways system natural linkages between areas must be identified, protected and where none currently exist, created.
3. A multi-use greenways path system must be developed and implemented with regard to natural features. Increased access to some natural areas could be established through scheduled excursions and mini-tours. A multi-use system would incorporate in different segments bike paths, hiking trails, and wheel-chair accessible areas.
4. Citizens of Hamilton-Wentworth must be made aware of the significance of the natural features of the Region. Information must be accessible and education opportunities available in schools and public libraries. This might be done, for example, by offering night classes for adult education or working to incorporate a "Hamilton-Wentworth Natural Heritage Unit" for school board use.
5. In concert with goal number four, decision-makers, such as politicians, corporate executive officers, senior bureaucrats in Hamilton-Wentworth must be made aware of the significance of the Region's natural areas.
6. Hamilton-Wentworth should establish itself as a tourism area in Ontario, specializing in ecotourism, by promoting the natural areas of the region. E.g. the "Region of Waterfalls" and/or migratory fly-way stopover.
7. Official plan policies relating to natural areas protection should be developed to deal with developments that may occur in or around these areas. Policies that are developed should incorporate a "no net loss of natural areas" focus.
8. The Region should establish an acquisition fund to be used to acquire and/or rehabilitate parcels of land necessary to complete the greenways system.
9. To ensure the best protection and management possible for Hamilton-Wentworth's natural heritage, all jurisdictions should co-operate under the leadership of the regional government.

5.0 BARRIERS

A number of barriers within the Region of Hamilton-Wentworth impede the pursuit and accomplishment of each of the nine goals that were identified by the Natural Areas Working Group (October, 1991). The following discussion describes the barriers the Implementation Team has determined stand in the way of achieving these goals and implementing the strategy.

5.1 Whose Responsibility Is It?

The uncertainty among associated agencies, and sometimes within an agency, with respect to whose mandate covers specific tasks affects goals #1 and #9. In the current system, there are too many organizational levels responsible for similar programs. Often individuals within an agency are reluctant to forfeit responsibility for programs they have typically dealt with. It is often perceived that this may open them up to being more vulnerable to losing their position within that organization.

Although interest to accept responsibility for a given goal may exist within the public sector, the public is often times reluctant to take responsibility for the goal since government bureaucracy makes it so difficult to complete a goal in a timely manner.

5.2 Staffing Required

Additional staff is required, at one level or another, in order for all goals to be achieved. Currently, staff within many agencies are being extended to the limit of their workload capabilities. Many government organizations remain "top heavy" leaving too few staff-level positions to complete ground level work. Situations also exist whereby staff, because of their seniority, are being asked to fill positions for which they may not be fully qualified. Obtaining properly qualified staff to fill respective positions is sometimes a challenge under the current system of some agencies. In some agencies staff time is being spent completing proposals/project files which never receive priority funding. There is a great deal of intra- and inter-agency red tape and paper chase to contend with.

In order to alleviate the responsibility currently being placed on existing employees it is recognized that additional hiring is required. This ties back into the issue of lack of funding.

5.3 Funding/Costs

Lack of funding impedes the achievement of goals #1 through and including #4, as well as goals #8 and #9. The current economy imposes a barrier to getting the financing required to achieve these goals in a number of ways. In the present recession there is a smaller tax base from which to draw funds. In addition, in a poor economy, the amount of private funding funnelling into programs is also reduced. Despite these conditions there continues to be large numbers of interest groups vying for the limited funds available. Those with a stronger lobby tend to be most effective in receiving support dollars. There is a realization that re-prioritizing funding allocations may be necessary in order to alleviate the crisis associated with lack of funding to support the pursuit and achievement of the goals.

5.4 User Conflict / Safety

Goal #3 is inhibited by user conflict issues. The "best use" for any given area is often being disputed by a number of agencies as well as interest groups, each identifying a different priority for use of the land based on their own particular mandates or agendas. Typically, heated debates arise as a consequence. It is difficult for area planners to satisfy all groups equally. In certain instances, safety may relate directly to user conflicts.

5.5 Legislation / Enforcement

Legislation and associated enforcement is required before goals #2, #4, #7 and #9 can be effected. Under the current system, staff resources are far too limited for the number of violations and calls that require enforcement. In some cases, enforcement is difficult because current legislation is too weak and/or penalties are too small to elicit the respect that is required to preserve natural areas. Where the definition of violations are not clear the door is opened to dispute. The system of enforcing legislation and fighting violations in court is both costly and time consuming. Often, too much time and money is being spent on reactive rather than preventative measures. Underlying both the production and enforcement of legislation is the key issue of whose responsibility it should be.

5.6 Lack of Criteria / Definition

Goals #1, #2 and #7 are affected by a lack of criteria or lack of clear definition. Natural areas are dynamic systems. There is an inherent difficulty in creating definitions for dynamic systems. In some cases there is little or poor information available to those responsible for effecting a decision. Even within a science individuals often differ with respect to their interpretations of given variables and/or criteria which should be used. Between disciplines this becomes even more pronounced. In most cases, consensus is used to come to the most reasonable decision, however, it is difficult to satisfy all individuals or disciplines which will ultimately utilize the definition.

5.7 Inconsistent Research Methods

Inconsistencies in the methods used to collect information is a barrier to achieving goals #1, #2, #4, #7 and #9. In many cases, there are no standard criteria to use for data/information collection. Each of the various groups/individuals that are collecting, or have collected, information have individual agendas and objectives. As a result, opportunities to collect more comprehensive data may be overlooked.

5.8 Land Tenure Issues

The attainment of goals #1, #2, and #7 are affected by current land ownership. Many landowners are unaware of the significance of their land as pieces of a much larger ecological or environmental system. Many significant natural areas are being lost through lack of understanding of the value of the property in its natural state, apathy towards the environment, and situations in which economic gains outweigh the perceived value of the land in its current state. Existing land stewardship agreement programs have provided an effective mechanism to educate landowners of the value of their properties. However, they offer no guarantee for future protection of these lands. Some individuals have such negative feelings towards "government" or "government affiliates" that they are not at all receptive to speaking with landowner contact representatives. Past experience with expropriation of property, often generations ago, still lingers in some areas and perpetuates these negative responses. In cases where land is identified for purchase, the issue of lack of funding is once again raised.

5.9 Information Dissemination / Education

Information must be disseminated effectively in order for goals #1, #2, #4 and #5 to be achieved. Related information which may provide support for these goals has been, and continues to be collected at various levels, by a number of related groups/agencies. However, the system of collection and data entry (where available) is often not being conducted in a standardized manner. The cost of standardizing the information into a geographic information system or related system has been prohibitive for many of the groups/agencies collecting the data.

Individuals, both from within an agency and between agencies, often experience difficulty when attempting to obtain information that currently exists. The general public is commonly confused and uncertain where to obtain specific information. This may be attributed to the similarities that exist between the mandates of some agencies, as previously noted. It is far too common for individuals to be sent on a "telephone adventure", often due to misinformed or uninformed staff at respective agencies.

5.10 Motivation / Interest

Motivation/Interest has been identified as a barrier for implementing Goals 4 and 5. Both of these goals relate to making actors aware of the significance of natural areas. Goal 4 is concerned with citizens, whereas, Goal 5 deals with decision-makers, including politicians, CEO's and senior bureaucrats.

Those that do not have an interest in the environment will not be motivated to pay attention to the message(s) identified by this committee unless it has some personal impact, either positive or negative, on their daily lives. There is currently such a "bombardment" of environmental issues and concerns in the media that there is a risk of desensitization of individuals to the importance of the information being presented (information overload).

Motivation is seen as a barrier because just making information on the significance of natural areas available to individuals in the target groups is not sufficient to raise the concerns of these individuals. First it is necessary to get these individuals interested in becoming aware; get them motivated to make the effort to become educated about this issue.

5.11 Perception

Goals #5 and #6 are affected by one's perception of the issues at hand. When "environment" is a buzz word in society, as it is now, the political ramifications of decision-making strongly influences the priority that politicians and policy makers place on environment-related issues.

5.12 Marketing and Delivery

Marketing and delivery of ideas and concepts needs to be conducted in order for goals #2, #3 and #6 to be achieved. A certain degree of marketing is required in order to educate the public and policy makers of the importance of ecologically sound, and effectively functioning, natural areas. Target audiences currently vary in their knowledge and understanding of issues related to the conservation of natural resources and natural areas. It is difficult to provide a one window approach when so many different agencies are required to provide the level of expertise that is necessary to interpret the various functions of natural systems. The most effective means of marketing the message is still open to debate.

6.0 ACTIONS

The Implementation Team developed the following set of recommendations as a way of addressing the barriers to implementing the strategy. These actions are also sub-categorized according to the nine Goals set out by the Natural Areas Working Group.

6.1 **Whose Responsibility?**

GOAL 1: Identifying/Researching/Describing Natural Areas

ACTION: The Region should take responsibility for making sure all components of the natural heritage framework are identified researched and described, taking leadership in Natural Heritage protection in the Region. This does not mean that the Region itself should carry out all activities but that it must see that the various elements fit together and that successful partnerships are forged. Thus, where actions need to be taken the Region should attempt to initiate the appropriate action.

GOAL 9: Leadership of Regional government

ACTION: The Region should exercise leadership by placing the natural heritage framework in the Official Plan.

6.2 **Staffing Required**

GOALS 1-9:

ACTION: Human resources are required to achieve all the goals. The Regional Environmental Office, as proposed, should be established immediately. The Region should review its existing staff resources, both numbers and qualifications, to determine if more staff is necessary.

In streamlining program delivery the primary emphasis should be on reducing duplication in the regulatory process so agency staff people can be reassigned to help achieve goals. For example, citizens should be able to go to one person in one agency to make application for tree planting on their property--even if different agencies or different programs are finally the source of public funding.

Effective communication between agencies is required. Each agency should assign the responsibility of "natural heritage co-ordination" to someone in their organization to help co-ordinate activities between agencies. For example, the Region's proposal for staffing an Environmental Office incorporates a "natural areas co-ordinator".

6.3 **Funding/Costs**

GOAL 1: Identifying/Researching/Describing Natural Areas

ACTION: Partnerships need to be formed among a number of organizations, i.e. federal Fisheries Department and Wildlife Service, provincial government ministries, Conservation Authorities, Non-governmental Organizations (NGOs), corporations etc...

The strategy employed by the Hamilton-Wentworth Natural Areas Inventory Project (appendix B), along with other innovative arrangements should be utilized in conjunction with budgeted regional dollars.

A Committee should be established for Mohawk and McMaster undergraduate and graduate students to focus research efforts on natural areas in this Region.

Scholarships for ecological research should be established and distributed through the Conservation Authority foundations.

GOAL 2: Identifying/Protecting/Creating Natural Linkages

ACTION: Funding for acquisition of natural linkages:

Goal 8 proposes creation of an acquisition fund to be established by the Region as part of the Regional budget setting process. Annual increments should be contributed to the fund. The fund should be used in response to development pressure on significant natural areas.

Other sources of Regional funding should be made available. Staged-forgivable, low-interest loans financed from the Region's short-term deposits is allowed under the Municipal Act, and would allow agencies to act to buy land where short-term cash-flow problems might otherwise have prevented a worthwhile purchase.

Partnerships should be formed among agencies and groups to use these funds and to help get matching funding from other sources, such as the Ontario Heritage Foundation, Nature Conservancy and Conservation Authority Foundations.

Opportunities for groups such as the Bruce Trail Association or Hamilton Naturalist Club to lead public fund raising efforts should be capitalized on through the formation of partnerships.

Personal tax deductions for donations of conservation land to public agencies should be similar to that now available for donating art, i.e.

full value of the asset and exempt from capital gains tax. Changes to Federal and Provincial legislation are necessary.

GOAL 3: Develop path system/increase access

ACTION: Funding for development of access: In some cases increasing access will require the purchase of property and/or rights-of-way. The actions for this kind of acquisition are the same as for Goal 2 above.

Development charges under the Development Charges Act should be used as a source of funds for acquisition of parks and open space.

Area Municipalities should allow and encourage the setting aside of linear, passive space as part of the 5% park space dedication made by developers in accordance with Planning Act requirements.

Public works such as parking facilities may also be required to increase access. Opportunities for co-operative arrangements between NGOs and public agencies for establishing and maintaining such facilities should be explored.

GOAL 4: Making citizens aware/information accessibility/education

ACTION: Costs for producing and distributing information are real and unavoidable. However, there is a need to sort out the overlap between agencies, to reduce redundant activities and to identify ways to share costs for information production or distribution.

GOAL 8: Establish Regional Acquisition Fund

ACTION: Region to establish through budget process. (See Goal 2 above.)

6.4 **User Conflict/Safety**

GOAL 3: Develop path system/increase access

ACTION: Land use plans should state up front that recreational or other uses should be allowed to occur only where such uses do not cause significant negative impacts or threaten the integrity of the natural area over the long term. Because of this, some natural areas or portions thereof will need to be off limits to any kind of human use.

Recognize the importance of accommodating recreational uses where environmentally feasible, since this is integral to building and maintaining public support for the protection of natural areas.

- * Where conflicts between uses occur (e.g. cycling vs. walking) attempt to separate the uses spatially and, if necessary, exclude the use with the higher per capita negative environmental impact.
- * Prohibit the recreational use of motorized vehicles in all natural areas.
- * Where uses already exist, attempt to modify existing trail systems to avoid negative environmental impacts and separate conflicting user groups.
- * Where no use or limited use exists, do not open the area to recreational use until a clear plan has been developed, e.g. for a proper trail system.
- * The ability to implement these actions will depend upon land tenure and the cooperation of private landowners.

GOAL 3: Develop path system/increase access

ACTION: Recognize and publicize to owners the fact that the law (Occupier's Liability Act) states that non-paying recreational entrants assume their own risk and that liability to the occupier is limited to where he/she knowingly creates a dangerous situation.

Keep development to a minimum and construct facilities only where a commitment to their proper maintenance is available (by government or NGOs such as trail clubs, etc.).

Inform users of need to stay on trails.

6.5 Legislation/Enforcement

GOALS 2,7 and 9:

ACTION: Official Plan policies should be made stronger. The limits of the Planning Act/Municipal Act have not been tested. For example, a

recent case established that a building permit can be denied if zoning doesn't comply with the Official Plan.

The Region should review the effectiveness of its Tree-Cutting by-law and look into the use municipal by-laws under the Topsoil Preservation Act. In this regard, partnerships between agencies may need to be formed since the enabling legislation and the capacity of each agency to undertake enforcement or monitoring needs to be reconciled. For example, Conservation Authority (CA) forestry staff can be appointed to perform a by-law enforcement role under a municipal Tree-Cutting by-law. Similarly, municipal by-law enforcement officers could be used to monitor and enforce sediment and erosion control plans, a traditional CA concern.

Tax incentives for private stewardship such as the provincial Conservation Land Tax Rebate program should be broadened so that land municipally designated under the Planning Act also qualifies, e.g areas currently designated Environmentally Sensitive Areas.

6.6 Lack of Criteria/Common Definitions

GOAL 1: Identifying/Researching/Describing Natural Areas

ACTION: The Natural Heritage Framework as described in the MNR paper should provide the overall framework for identifying and researching natural areas in the Region.

The Natural Areas Inventory could serve as the initial database for identifying core areas within the framework. Mapping for other areas should also be provided by MNR and the CAs. Information on natural areas, corridors and linkages should be kept in a data base and mapped using a format compatible with other agencies in the region. The database should maintained and up-dated by the Region.

The components of the natural heritage framework could then be overlayed on other maps by the use of geographical information systems. In this way, all interested parties will be fully aware of the basic natural areas framework the Region deems necessary at minimum to maintain ecological integrity.

The Regional Official Plan designation and protection policies for natural areas should be the focus of social/political debate and must

be prepared with provincial advice and Area Municipal input, in an open, consultative process. Provision for natural justice, public notice, landowner participation etc... is in the Planning Act process of Official Plan review/amendment.

GOAL 2: Identifying/Protecting/Creating Natural Linkages

ACTION: Same as for Goal 1 above.

GOAL 7: Official Plan policies for natural areas, surrounding land/no net loss

ACTION: No net loss concept defined in Appendix C.

6.7 Inconsistent Research Methods

GOALS 1,2,4,7, and 9:

ACTION: The Region should be responsible for co-ordinating or initiating research. The development of research methodology, or methodologies would follow from the principles of the natural heritage framework. A common and acceptable format for up-dating of the natural areas database should encourage a similar approach to research.

The roles of other agencies and groups will need to be negotiated and agreement on protocols reached. Establish a "Natural Heritage Committee" or "Ecological Advisory Committee" to help arrange agreement between agencies on research needs and protection measures. Research design would include appropriate landowner contact/permission and NGO participation.

6.8 Land Tenure

GOALS 2,3 and 7:

ACTIONS: A landowner contact program should be established to encourage private stewardship for all natural areas. Partnerships with MNR and the CAs will be necessary.

Any use of the acquisition fund (Goal 8) should proceed on a willing buyer, willing seller basis. The expropriation of land in natural areas is

considered unlikely and should be considered in only the most unusual circumstances.

The variety of options associated with title and purchase arrangements should be investigated and then used by the Region, where appropriate. For example, the techniques and procedures for arranging purchase of easements and putting restrictive covenants on title through purchase and saleback, should be described and evaluated. Existing organizations (e.g. Conservation Authority foundations) may be the most effective way to actually implement these options. New organizational arrangements, such as community land trusts, may be necessary and should be evaluated as well.

Land use controls are a way of preventing development changes in natural areas on private property. Goal 7 specifies that Official Plan policies for protecting natural areas and reviewing developments around natural areas should be prepared.

6.9 Information Dissemination

GOAL 1: Identifying/Researching/Describing Natural Areas

ACTION: The development of an accessible geographic information system is the best way to enable production of timely, relevant data cheaply. A read only terminal could be placed in the public library. Detailed information will be made available with discretion. However, the existence of the information, and the method by which to get it, should be widely publicized.

GOAL 2: Identifying/Protecting/Creating Natural Linkages

ACTION: Public consultation and notice should be accomplished through the Official Plan review exercise. Similar to as noted for Goal 1 under the barrier of Lack of Criteria/Common Definition.

GOAL 4: Making citizens aware/information accessibility/education

ACTION: Same as action for Goal 1.

School boards to develop curriculum. This may be done in concert with other agencies. For example, the HRCA is developing materials and field study opportunities for a "Greening the Schools Program".

6.10 Motivation / Interest

GOAL 4: Making citizens aware/information accessibility/education

GOAL 5: Educate decision makers

ACTION: To overcome this barrier we need to show how an inter-connected natural area system will benefit these actors individually or collectively. One way this could be tackled is to provide examples of tangible benefits which affect target groups and relate them to specific natural areas. The obvious examples should be avoided, i.e. wildlife watching opportunities for naturalists, recreational opportunities for active, non-disadvantaged individuals since this is the audience that is already aware, and furthermore is perceived as the elite group that benefits from natural areas. Possible examples are:

- o show how a low-cost recreational fishing in an urban/suburban area is dependent on an upstream swamp area.
- o to reach decision makers with a rural interest, focus in on the issue of groundwater quantity and quality.
- o to reach decision makers concerned with attracting and keeping employees, emphasize natural areas as low-cost amenities for individuals and families.
- o to reach Chief executive Officers focus on public image, also relate the functional aspects of various parts of the ecosystem to the parts of an industry eg. forests as air-cleaning, marshes as water cleaning
- o emphasize the parallels between ecological linkages and economic linkages
- o show what is on the ground now, what is possible re developing economic opportunities based on natural areas, such as eco-tourism, attracting qualified employees to the Region for quality of life reasons
- o show how natural heritage can be protected and enhanced and how this contributes to the long term health and quality of our environment.

6.11 **Perception**

GOAL 5: Educate decision makers

ACTION: The Conservation Authority should assume a lead role in implementing a programme of information and education for key decision makers with support by the Region. The Conservation Authority already maintains an important education function within its program which could be expanded to target special groups such as corporate executives.

The method and timing of communication must present an attractive education opportunity for key decision makers. The Conservation Authority could develop an innovative education program utilizing printed material, lectures with special guest speakers, etc. The focus would be the natural heritage of Hamilton-Wentworth, how this will be protected and enhanced and how this contributes to the long term health and quality of our living environment.

GOAL 6: Natural Areas Promotion

ACTION: The Region should assume a lead role in promoting eco-tourism and the natural areas of the Region with assistance from the Conservation Authority, the Ministry of Tourism and promotional organizations tour operators such as "Festival Country", and NGOs. The Region has already established some partnerships in this area and these could be expanded to broaden the "reach" of the program. Volunteer organizations such as the Naturalist Club and education groups such as Elder hostel could provide a basis for contact with potential visitors and residents.

Promotion would focus on the diversity of natural conditions in a near-urban setting and the unique features which characterize the Region. The method of promotion could involve the printed media, tour organizations, public events in other locales, etc. The Conservation Authority, with the assistance of volunteer groups such as the Naturalist Club, could also assist by co-ordinating and conducting eco-tours. This would provide some opportunity to control how the natural areas are used during these events.

6.12 Marketing and Delivery

GOAL 3, 4, 5, & 6

ACTION: The Region can promote and support "eco-tourism" as an excellent example of sustainable development. A Regional Scenic Roads Study should result in maps and the posting of routes.

A comprehensive marketing plan should be developed by the Economic Development Dept. in co-operation with the Conservation Authorities and NGOs. The marketing plan should incorporate the following concerns:

- Ensuring the availability of information on natural areas.
- Production and distribution of brochures of how to get to publicly accessible natural areas. Tourist oriented materials. can be distributed in tourist centres, public libraries, travel agencies, and various regional and municipal administration buildings. Potential tourists from other areas should be made aware of the Region's natural heritage. Newspaper articles on the Region would help.
- The marketing plans must be sensitive to the fragility of the sites involved, to the potential for over-use and potential nuisance to neighbours and other landowners.
- The level of marketing should depend on the actual target audience. These vary widely from students in lower school to various levels of high-school, and post secondary educational institutes. Each group requires a different degree of sophistication in the presentation of data. A variety of mechanisms, specifically addressing a particular market niche should be used. This includes written materials, photographic or video shows, and the preparation of speakers lists. The plan must address diverse interest groups in a meaningful way. Each category of natural area or ecotour feature must be presented in an educational and interesting way in order that the populous at large will understand the various issues related natural areas.
- The various educational authorities must be brought on side to help create the delivery mechanism to the various school

students. For example, the HRCA "Greening the Schools" program seeks Board of Education commitment at both a corporate and curriculum development level.

- The politicians, and both public and private bureaucrats, require more detailed information to comprehend the overall scope of the problem and its solutions. Information leaflets or brochures aimed at the general public should also educate by describing the location of various sites, their accessibility and general intensity of use. Technically more sophisticated materials should be available to those having use for such materials. This information would normally be deposited with an appropriate agency of the Region.
- Marketing and information dissemination must not indiscriminantly disclose sensitive information concerning ecologically sensitive situations, such as rare flora and fauna habitats situation.

Application of the GTA Natural Heritage Framework to Stoney Creek and Battlefield Creek Below the Niagara Escarpment

An exercise was implemented to test the application of the GTA Natural Heritage Framework to an urban setting. Stoney Creek and Battlefield Creek below the Niagara Escarpment were selected given the urban context of these watercourses.

Both creeks outlet to Lake Ontario which was not part of the study area. However, the importance of the lake and shoreline to the overall land and water-based ecosystem was recognized.

As a first step, a data base was collected consisting of the best available mapping information of the study area including:

- 1:5000 aerial photography
- 1:15000 colour stereo pairs
- Environmentally Sensitive Areas (ESA)
- Areas of Natural and Scientific Interest (ANSI)
- 1:10000 topographic mapping
- 1:2000 floodplain mapping
- assessment mapping
- fill and construction regulations
- existing public open space mapping

The opportunity to field-check this information was not available given the lack of time. It would be prudent to undertake this effort should a formal exercise be initiated. In the test case, prior knowledge of local conditions at a fairly detailed level assisted in completing the exercise.

.../2

- 2 -

Stoney Creek and Battlefield Creek are characterized by steep gradients and deep valleys in the upper reaches. North of Queenston Road, the floodplain widens the well-defined valley walls. These areas are relatively natural in character but divided by a number of road and rail crossings consisting of culverts through fill embankments. The Niagara Escarpment and Lake Ontario form the natural anchors at opposite ends of the system. Through the old Town, there is a longstanding history of encroachment by development on the floodplain particularly in Stoney Creek.

Ideally, a systematic approach would be used consisting of a series of mapping overlays at a consistent scale. This opportunity was not available for the purpose of the test case.

As a first step, a "Core Area" was defined consisting of the Niagara Escarpment slopes from the crest to the limit of development at the toe having regard for the mapping information available -- this area was delineated in green.

This was followed by the definition of "Natural Corridors" along the major length of the stream corridors usually to the top of bank. These areas were marked in orange extending on Stoney Creek from Collegiate Avenue to Lake Ontario and on Battlefield Creek from the Village Green Apartments to its confluence with Stoney Creek north of Lake Avenue. Road and rail crossings were excluded given the scale of these features.

Finally, "Connecting Links" were defined in red at the road and rail crossings and where development encroachment has broken the continuity of the natural corridor. In some instances, the "Connecting Links" were defined by a single line to reflect culverts or the need to field-check conditions.

The definition of "Connecting Links" in the test case was important given the linear nature of the stream corridor. There are few opportunities to establish alternate links within the urban setting. It is important to recognize the existing links and the potential to enhance this function to improve continuity in the natural corridor. This opportunity could be available should road culverts be replaced or floodplain improvements be implemented in areas of development encroachment.

The results of the test case were fairly predictable in that the linear and fragmented nature of the corridor was highlighted with recognition of few alternative links given the urban setting. This underscored the need to protect what little remains and to restore as much as possible the functions of the links within the corridor.

BEVERLY SWAMP AND JERSEYVILLE AREA GROUP

Brian McHattie, Wayne MacMillan

The approach to Natural Heritage System identification utilized by McHattie and MacMillan is outlined below.

1. Information on Natural Core Areas collected by the Hamilton Field Naturalists Club in the Environmentally Sensitive Areas Study of the Regional Municipality of Hamilton-Wentworth was acquired. Maps of existing and candidate Environmentally Sensitive Areas and air photos were reviewed.
2. Ontario Base Maps, at a scale of 1:10,000, were obtained for the west half of Beverly Swamp, Jerseyville and an area east of Jerseyville.
3. The boundaries of restricted land use areas as shown in the official plans of Flamborough and Ancaster were transferred to the base maps. This exercise incorporated the existing framework within the planning documents. Wetlands, floodplains, areas of poorly drained soils and steep slopes which are properly designated, form the physical basis of the corridors and natural areas in the Natural Heritage Framework.
4. Specially designed areas under the Conservation Authority's Fill, Construction and Alteration to Waterways Regulations were plotted on the base maps. The main area is Beverly Swamp and waterways and wetlands associated with it and its catchment are also designated.
5. On the completion of step 4, the majority of Natural Core Areas, Natural Corridors, Natural Stream Corridors, and Natural Connecting Links had been delineated on base maps. It was apparent that there was a need for more links and rounding out of areas of natural vegetation. The system of corridors consisted of many parallel lines with few links between them. Therefore, more input from the Environmentally Sensitive Areas Study was required. The boundaries of areas of concern, rare and uncommon species observed, and buffers were incorporated.
6. In a final step, colour air photos were examined in the link selection process. Many hedgerows, grassed waterways, plantations, utility corridors and sections of abandoned railways which round out and link natural areas and corridors were added to the framework.
7. Coloured maps are attached. Natural Core Areas are shown in green, Corridors are orange and Links are red.

Ancaster Creek Headwaters Group

Peter Ashenhurst, Alan Ernest, Julie Bergshoeff
Resource - Audrey Heagy

The group identified a number of questions which would influence the creation, protection and enhancement of corridors:

Questions:

- o What is being saved?
- o What is there now?
- o What are requirements of existing species?
- o Do we want to improve/create habitat for a wider variety of species? Do we have enough knowledge to do this?
- o What value does community place on corridor?
- o What is purpose of corridor - recreation or wildlife?
- o Should species be protected if they are significant at a Regional level as opposed to a global level?
- o What is relationship between wildlife in Ancaster and wildlife in other natural areas in the Region?
- o How much information is necessary before actions are taken?
- o What will impact of planned development be? In other words, will significant species disappear in spite of protection of certain corridors?

Certain characteristics, constraints and opportunities associated with the Ancaster Creek Headwaters were identified as significant to planning for corridors:

- o weak linkage to Iroquois Heights Conservation Area 1 km to north. Iroquois Heights is linked to Dundas Valley to the North West
- o Tenuous connection to the Escarpment face - private property has had several proposals for development - maintaining or improving link could possibly provide a corridor for certain species -
- o Riparian habitats, upland woods and successional communities are well represented. The wooded areas have been subject to moderate to high levels of disturbance.
- o Nine mammal species reported from site, including significant deer population.

- o 403 represents a barrier for most wildlife. Tunnel at end of radial line provides recreational link
- o Access to Iroquois Heights could be improved through using radial line or hydro corridor for parking purposes.
- o Increasing conflicts due to location at urban fringe - eg. proposed roadways, recent channelization of Tiffany Creek, increased recreational use
- o Constraints posed by land ownership, status of plans of subdivision, Secondary Plans
- o Corn fields, other uses on fringe of ESA could be integrated to improve ESA
- o School on Glancaster Road could be encouraged to improve linkage to treed lot existing in rural area
- o Surrounding agricultural land provides bleak landscape for species - fewer hedgerows as size of farms increases
- o Parkland development could be used to provide access to growing population - eg. siting parks at edge of natural area
- o Design of subdivisions could improve access to natural areas - eg. breaks at end of cul-de-sac

APPENDIX B INNOVATIVE FUNDING ARRANGEMENTS

The Hamilton-Wentworth Natural Areas Inventory Project

A volunteer non-government organization (NGO), the Hamilton Naturalists' Club (HNC) designed the project to identify and provide detailed inventory data on all of the significant natural areas in the region of Hamilton-Wentworth.

\$220,000 was raised by the HNC using a wide variety of funding avenues. Because the project was headed by a NGO, funding from foundations such as the Royal Canadian Geographic Society, Laidlaw, MacLean, Bronfman and McBride foundations was obtained, along with support from government programs like the Environmental Youth Corps. The HNC contributed their own money and obtained the rest from a partnership of government agencies, the Region of Hamilton-Wentworth (\$64K), Hamilton Region Conservation Authority (\$30K), MNR (\$20K), MOE (\$10K) and Environment Canada (\$10K).

While this type of arrangement with a NGO as lead agency will not work in all project situations, the partnership style of funding works well and will only become more popular in the future.

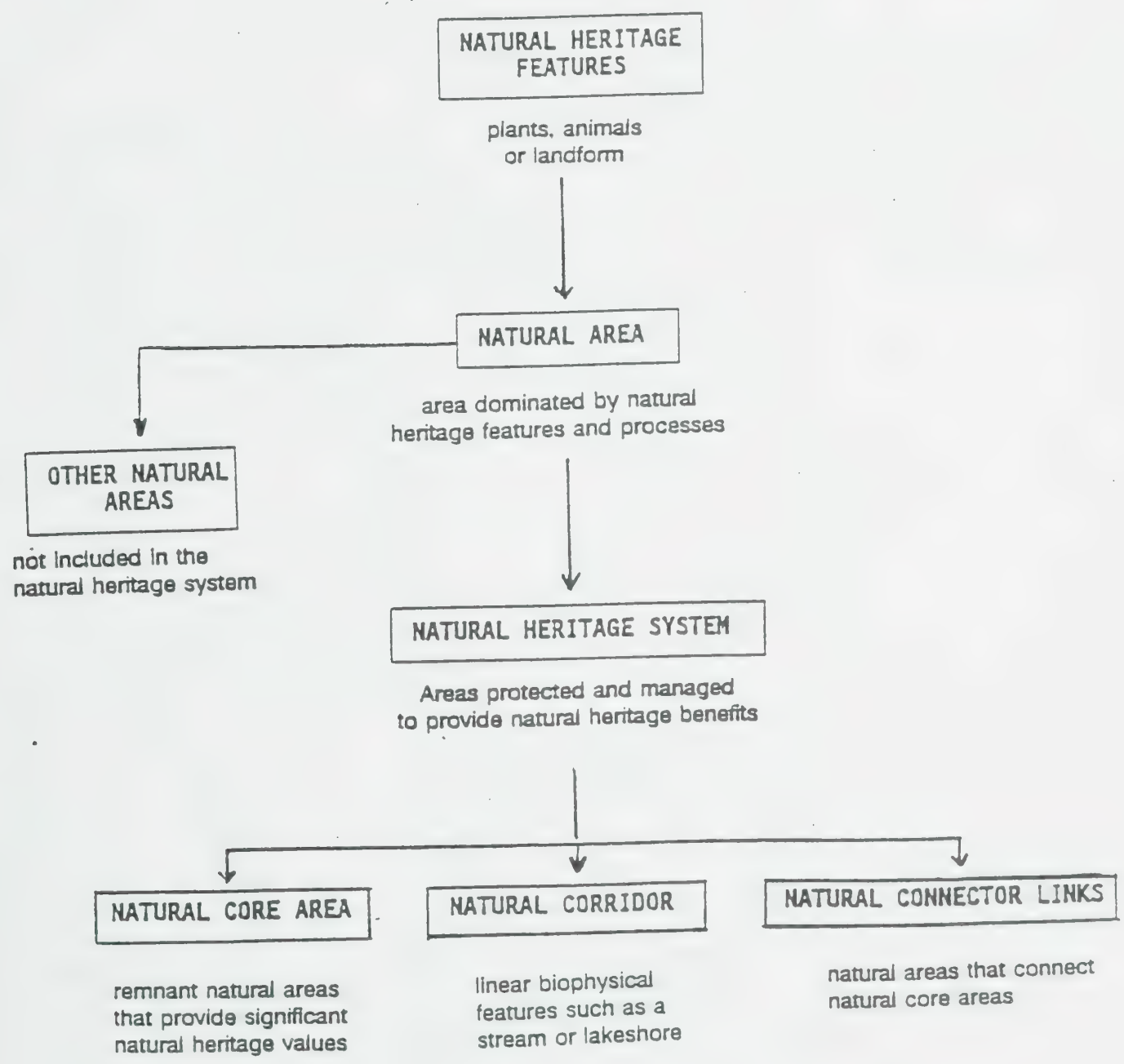
APPENDIX C NO NET LOSS OF NATURAL AREAS CONCEPT

No Net Loss of Natural Areas Concept



At the core of the no net loss concept is the desire to protect and buffer all existing natural areas. However, in some cases the protection of every square inch of existing natural areas may not be practical or possible. The no net loss concept allows for the loss of small portions of natural areas in those relatively rare instances where such loss cannot be avoided due to very high cost or overriding societal needs provided that a compensatory gain to the protected land base of the natural area can be achieved as part of the trade off for the loss of natural area. The area "gained" must be at least equal the size of the area lost and must result in a net enhancement of the viability of the natural area.

An example of an acceptable tradeoff would be a relatively circular natural area with a narrow "limb" extending from one side which is flat and rocky and a significant indentation on the other side of the circle. Assuming that the narrow limb contains no unique features or elements essential to the integrity of the natural area and does not serve as a connecting link and assuming that the indentation could be developed but presently is undeveloped and contributes to the viability of the natural area a trade off to allow development of the limb in exchange for dedication or donation of the indentation and perhaps its reforestation. Such a trade off would result in a net enhancement of the natural area. Trade offs of this nature should not become the norm or become an easy way for developers to get around natural areas protection.

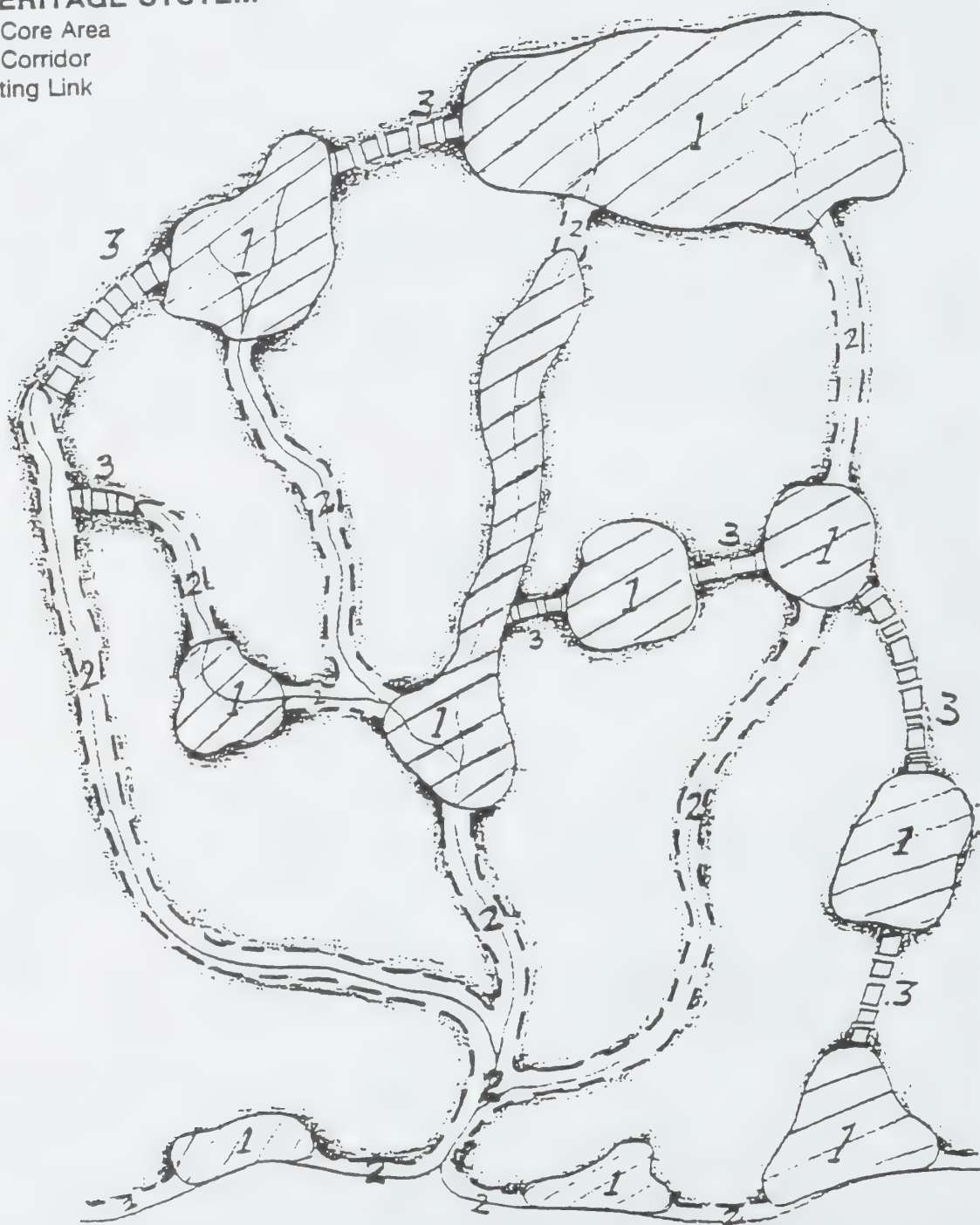
FIGURE 1
SCHEMATIC REPRESENTATION OF
NATURAL HERITAGE DEFINITIONS



HYPOTHETICAL NATURAL HERITAGE FRAMEWORK

-  HUMAN DOMINATED AREA
-  NATURAL HERITAGE SYSTEM
1. Natural Core Area
 2. Natural Corridor
 3. Connecting Link

 INTERFACE



A Report
of
The Implementation Team
on
Cultural, Historical &
Recreational Amenities

Prepared for

The Regional Chairman's Task Force on
Sustainable Development

July 15, 1992

Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development has a mandate from Regional Council to develop a regional vision statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Regional Economic Development and Planning Committee chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of an implementation strategy, the Task Force formed eight implementation teams in the following subject areas:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Land Use Planning and Community Design;
- Transportation;
- Cultural, Historical and Recreational Amenities; and,
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional government and its departments, as well as, to the area municipal governments, the provincial and federal governments and other appropriate organizations, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the eight reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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1.0 What We Want!

The purpose of this report is to present a strategy for achieving the goals implicit in "VISION 2020" in the cultural, historical and recreational amenities topic area. Related to this topic area, "VISION 2020" makes the following statements about the future state of Hamilton-Wentworth:

Cultural institutions and activities are recognized and supported for their contribution to community life and economic health. Cultural institutions reflect our historical development and the contributions of our diverse population.

All citizens are knowledgeable about sustainable development and quality of life issues. Our cultural institutions and groups advocate values consistent with environmental sustainability. Educational institutions instill sustainable values and citizens pursue sustainable lifestyles.

2.0 How to Get There!

This strategy is organized in a hierarchical fashion, with goals (the why statements), preceding actions (the how statements). The team developed the strategy on the basis of guiding principles derived from "VISION 2020" and identified by the team early in the process. The guiding principles are:

- All have equal opportunity to participate in community life.
- Community processes are open to all.
- Sufficiency and moderation are core values.
- Success in living is seen in relational terms.
- Conservation ideals permeate all of community life.
- All have opportunities to enjoy an enriched and secure quality of life.
- The Region exercises leadership in leisure issues common to all area municipalities.
- Citizens educate one another.
- Community character develops in a natural way and not through the imposition of pre-conceived utopian plans.

- The social atmosphere allows the local arts to develop and become appreciated.
- Art is a vital part of life.
- The Region acts as a good corporate citizen.
- The historical environment is important for Regional and personal identity.

These guiding principles find expression in the following ten goals and supporting actions.

Goal 1. To protect and enhance the rural landscape.

Actions:

- Prevent urban encroachment on the land.
- Limit redevelopment of hamlets.
- Limit severances.
- Limit golf courses, landfills, wrecking yards.
- Ensure Regional undertakings respect the rural landscape.
- Recognize the importance of agriculture in the Regional identity.

Goal 2. To protect and enhance the urban landscape.

Actions:

- Investigate and encourage the use of present rights of way and radial lines in transportation links with leisure, heritage and cultural sites (e.g.: the old incline).
- Maintain urban development within an urban boundary.
- Encourage re-development within the urban area.

- Ensure flexibility in zoning.
- Encourage parks and open space.

Goal 3. To protect and enhance the natural environment.

Actions:

- Develop the waterfront and the escarpment for community use.
- Protect natural and ecologically sensitive areas, both currently designated and those not yet designated.
- Establish ecological reserves with strictly limited human access for the most sensitive natural areas.
- Develop a greenbelt system to protect all natural drainage and to connect the lakeshore and the escarpment.
- Develop interconnected, regional, open space, trail/cycle path system.
- Use former rail radial lines for cycle and walking paths with interpretive signing.
- Develop a Regional Waterfront Strategy.

Goal 4. To protect and extend wildlife habitat.

Actions:

- Maintain and encourage the development of habitat to support mammals and birds.
- Educate people about wildlife, living in harmony with creation, and the rights of all creatures.

Goal 5. To enhance rural and urban community and neighbourhood self-awareness and identity.

Actions:

- Provide a central meeting place in each neighbourhood.
- Enable citizens to participate in identifying the needs for their neighbourhood.
- Help neighbourhoods to identify their attributes and catalogue these features.
- Encourage participatory research and planning on the basis of natural social areas, not arbitrary administrative boundaries.
- Ensure an equitable distribution of services throughout the Region (i.e.: recreation, library, social services, transportation).

Goal 6. To strengthen cultural identities.

Actions:

- Encourage cultural institutions to have greater involvement in community life.
- Encourage cultural institutions to inter-act with each other.
- Institute educative outreach programmes by cultural institutions.

Goal 7. To ensure ease of access to all areas in the Region.

Actions:

- Develop urban and rural cycle paths across the Region.
- Improve public transportation Region-wide.
- Investigate establishing a Regional LRT.
- Discourage the overuse of single driver vehicles.

- Limit the number of parking lots downtown.

Goal 8. To ensure a literate and educated population.

Actions:

- Emphasize technical and artisan programmes equally with academic programmes in the school system.
- Ensure gender equality in school programmes.
- Promote continuing education and lifelong learning formally and informally.
- Promote ideals of sustainability in industry.
- Encourage retired people to become involved in volunteer teaching and become mentors.
- Develop education for leisure.
- Provide education to equip people for changing industrial conditions.

Goal 9. To encourage the development of a vital, growing arts community.

Actions:

- Encourage street level, spontaneous arts (street musicians, pavement artists, performers etc.).
- Create non-mainstream exhibit space and opportunities.
- Develop strong arts curricula in schools and at the post secondary level with links between artists, art organizations, and the schools.
- Encourage and financially support arts organizations in the Region.
- Attract artists from outside the Region through an arts centre with low rent studios, boutiques and galleries.

- Investigate ways to make the arts more accessible and affordable for a broader public.

Goal 10. To protect heritage elements.

Actions:

- Establish strong heritage policies for use when reviewing development/redevelopment applications.
- Prepare a Regional archaeological and heritage inventory and policy plan.
- Encourage adaptive re-use of heritage features.
- Utilize heritage attributes of the Region in the economic strategy.
- Prepare a Regional heritage strategy that includes an inventory of landscape, heritage and cultural attributes and opportunities.
- Designate heritage conservation districts.
- Ensure Regional undertakings respect heritage of urban areas.
- Region will adaptively re-use heritage buildings.
- Ensure plans for local areas include heritage, culture, parks and open space.
- Institute a Regional legacies/bequests programme (property and cash) for the purposes of leisure, parks, open space, and culture.
- Identify and protect heritage and scenic landscape areas.

Appendix - Implementation Team Process

The implementation team met seven times and reviewed the material prepared by the previous working groups on culture and learning, human health, and food and agriculture. The team also reviewed the summary reports on the public consultation process and the main points raised regarding the draft of "VISION 2020". The team also reviewed current literature on tourism and recreation in Hamilton-Wentworth.

The following citizens were members of the implementation team and contributed to this strategy:

David Cuming
Marilyn Havelka
Trevor Hodgson
Bill Kriesel
John Livingstone
Judith McCulloch
Jane Rigby

Mark Hornell (Staff Coordinator)

A Report
of
The Implementation Team
on
Community Well-Being,
Health & Quality of Life

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

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- Agriculture, Rural Settlement and the Rural Economy;
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- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

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Marion Emo
Susan French
Lynn Garrison
Peter Hoyle
Harvey Jardine
William Paterson
Blake Poland
Dave Stieb

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Introduction

The World Health Organization defines health as a "state of physical, mental, and social well being". The Premier's Council on Health Strategy links physical, mental and social health with economic well being in A Vision of Health: Health Goals for Ontario (1989). The implementation team adopted this broad definition of community health which recognizes the links between human health and social, physical, and economic environments.

The health status of communities and individuals is affected by numerous factors - human physiology, the air we breath, the quality of the water we drink, the availability of food, the quality of housing, the nature and scope of economic activity, the opportunities we have for meaningful involvement in our communities and social networks, and the lifestyle choices we make, to name only a few. As we considered these broad determinants of health that lie, for the most part, outside the traditional health planning and health services sector, it became clear that healthy public policy for community well being is a function of collaborative planning across all human services sectors.

The goals and objectives in this report describe a vision of community well being, health, and quality of life and are based on this broad understanding of health. They promote policies and programs which together enhance, maintain and protect the health and well being of the community as a whole.

The Vision:

The purpose of this report is to present a strategy for achieving the vision outlined in "VISION 2020" in the community well-being, health and quality of life topic area. Related to our topic area "VISION 2020" makes the following statements about the future state of Hamilton-Wentworth:

In the year 2020, disease and disability are being progressively reduced. All of us achieve our full potential in a safe, non-violent environment. Everyone has adequate food, shelter, income and education. Everyone has a valued role to play in family, work and community. We have access to affordable and appropriate health care, regardless of geography, income, age, gender, or cultural background. Cultural institutions and activities are recognized and supported for their contribution to community life and economic health. Cultural institutions reflect our historical development and the contributions of our diverse population.

All of us take responsibility for our health, citizenship and public decision-making. As citizens, we are active participants in cooperative, region-wide community planning. Government is coordinated, efficient and easily accessible. A well-educated, literate population is seen as a total community responsibility. Schools are leaders in effective learning and excellence in teaching. Lifelong learning is valued and supported across the community. All citizens are knowledgeable about sustainable development and quality of life issues. Our cultural institutions and groups advocate values consistent with environmental sustainability. Educational institutions instill sustainable values and citizens pursue sustainable lifestyles.

Guiding Principles

Out of "VISION 2020" and discussion amongst members of our team, a number of guiding principles were identified as the basis for our recommendations.

These are as follows:

1. The means by which we achieve community well-being, health and quality of life are as important as the outcomes themselves.
2. The well-being, health and quality of life of individuals and communities are interdependent. Healthy communities allow people to achieve their full potential (a rope of three strands is stronger than three strands alone).
3. There is a social contract between citizens and government which implies mutual responsibility.
4. Pluralism in society should be respected and valued.
5. Services and programs should be accessible geographically, physically and culturally.
6. Programs are based on identified needs, in line with the idea of sustainability.
7. Public participation in decision making is paramount.
8. Sustainability should characterize all human activity.

9. Individuals and communities should become empowered to make informed choices for themselves.

Goals

These values have led us to elaborate a series of GOALS, OBJECTIVES, STRATEGIES AND ACTIONS for the community well-being, health and quality of life topic area. First, we endorse the goals which were developed by the Ontario Premier's Council on Health Strategy (now "Health, Well-being and Social justice") as consistent with "VISION 2020" and applicable to the Hamilton-Wentworth Region. We encourage the Region to monitor the progress of the Council in operationalizing goals and objectives and to adopt them as appropriate. We have added to and modified existing goals and objectives of the Council where we felt necessary and frame our implementation plan as follows:

GOAL 1: *Create government that is coordinated, effective, efficient and easily accessible in which citizens have meaningful participation.*

GOAL 2: *Provide health and social services which are based on identified community needs (not on past utilization patterns) and which are characterized by:*

- a) *a system that is coordinated, effective, efficient and easily accessible in which citizens have meaningful participation.*
- b) *a shift in emphasis to health promotion and disease prevention*
- c) *provision of accessible, affordable, appropriate health services for all*

GOAL 3: *Create an economic climate that will ensure everyone has an equal opportunity to find meaningful employment and receive a fair and adequate income.*

GOAL 4: *Foster strong, safe and supportive families and communities.*

- GOAL 5:** *Ensure an accessible, affordable, nutritious and personally acceptable supply of food and safe drinking water for everyone.*
- GOAL 6:** *Ensure accessible, affordable and adequate housing for all.*
- GOAL 7:** *Ensure a safe, high quality physical environment.*
- GOAL 8:** *Ensure equitable access for all to quality life-long learning*
- GOAL 9:** *Support and foster cultural institutions that reflect our historical development and the contributions of our diverse populations.*
- GOAL 10:** *Increase the number of years of good health for the citizens of the Region by reducing illness, disability and premature death.*

Consolidated Goals, Objectives, Strategies and Actions List

Goal 1: *Create government that is coordinated, effective, efficient and easily accessible in which citizens have meaningful participation.*

Strategy 1: Ensure citizen participation in local politics and governance.

Action: Institute a selection process similar to jury selection to invite greater public participation in government committees.

Action: Re-evaluate the terms of reference of Regional advisory committees for inclusiveness and representativeness.

Action: Hold town hall forums at both area municipal and regional level.

Strategy 2: Ensure that government is coordinated, effective and efficient.

Action: Develop and implement mechanisms to evaluate government activity and to hold it accountable to citizens of the Region.

Strategy 3: Enhance public access to and integration with Regional planning processes.

Action: Establish a coordinator's office for citizen action and outreach.

Action: Develop mechanisms to evaluate the Regional Official Plan, and to hold it accountable to citizens.

Action: Develop new community consultation models based on the Task Force experience, the healthy communities initiatives in British Columbia and Quebec, and the Oregon model for health planning.

Goal 2: *Provide health and social services which are based on identified community needs (not on past utilization patterns) and which are characterized by:*

- a) a system that is coordinated, effective, efficient and easily accessible in which citizens have meaningful participation.*
- b) a shift in emphasis to health promotion and disease prevention.*
- c) provision of accessible, affordable, appropriate health and social services for all.*

Strategy 1: Provide health and social services based on identified community health and social needs in the Region.

- Action:** By 1995 develop and implement a fully operational Community Health Status Information System along the lines of the Health Priorities Analysis Unit at McMaster (in keeping with the Ministry of Health Mandatory Health Programs and Services Guidelines), that provides information on health status, social, economic and environmental indicators ("healthy community indicators") and has the capacity for needs assessment, monitoring and evaluation, as well as forecasting and modelling.
- Action:** Encourage the District Health Council to develop mechanisms to ensure that all existing and new health services are needs based.
- Action:** Provide education to providers, planners and consumers on the determinants of health and the importance of needs-based services.
- Action:** Actively participate in the Essential Regional Health and Social Research Project coordinated by the Health of the Public Project at McMaster University.

- Action: Encourage the development, implementation and evaluation of models for the delivery of needs-based health and social services (possibilities include Community Health Centres, Comprehensive Health Service Organizations).
- Action: Increase opportunities for non-physician health professionals (eg. dietitians, nurse-practitioners) to receive remuneration independently of physicians.
- Action: Directly support the Province's Long Term Care Reform plan.
- Action: Support enhanced rationalization of health services in the Region.

Strategy 2: Ensure a coordinated, effective, efficient, accessible health and social planning structure (see also Goal 1).

- Action: Consider implications for the Region of the phased devolution from the Province of responsibility for planning, coordination and delivery of health and social services (as proposed by the Premier's Council).
- Action: Encourage integrated health and social planning in the region, to more effectively address the broad determinants of health (other than the health care system) and their relationship to healthy public policy.
- Action: Support the development of a social contract between service institutions and their communities (Refer to the proposed Public Hospitals Act).

Strategy 3: Ensure citizen participation in health and social planning and governance (see also Goal 1, Strategy 1).

- Action: By 1995, all local health and social service organizations and planning bodies (eg. the Hamilton-Wentworth District Health Council, the Social Planning and Research Council, the United Way, hospital boards and Children's Aid Societies) should have balanced representation of providers and consumers.

Action: Develop advocacy mechanisms to ensure representation of the diverse population of the Region, particularly vulnerable groups.

Strategy 4: Advocate for a shift in emphasis to health promotion and disease prevention.

Action: Encourage the development, implementation and evaluation of models for health and social service delivery which provide financial incentives for professionals to increase health promotion and disease prevention activities.

Action: Support the development, implementation and evaluation of models for educating the public and the media on the broad determinants of health.

Action: Work with McMaster University and Mohawk College to improve education of health professionals in health promotion and disease prevention.

Action: Work with McMaster University and Mohawk College to increase the availability of continuing education courses on health promotion for family physicians, public health nurses and community developers.

Action: Support the full implementation by the Department of Public Health Services of the Ministry of Health's Mandatory Programs and Services Guidelines relating to health promotion and disease prevention.

Action: Work with research institutions in the Region (such as McMaster University) to increase health promotion and disease prevention research activity.

Action: Advocate for greater funding for research in health promotion and disease prevention from governments and other funding agencies.

Strategy 5: Ensure that health services are accessible physically (i.e. to people with disabilities), geographically, and culturally.

Strategy 6: Ensure that health services are affordable (to individuals and to society).

Action: Support the District Health Council in initiatives to work with the Province, and with multiple sectors in the Region, for the continuation of universal health care.

Action: Prioritize services/procedures based on identified needs and evidence of effectiveness and cost-efficiency.

Strategy 7: Ensure that health services are appropriate (to health needs (see Strategy 1)).

Goal 3: *Create an economic climate that will ensure everyone has an equal opportunity to find meaningful employment and receive a fair and adequate income (Refer to the Report of the Implementation Team on Economy, Livelihood and Workforce Education).*

Objective: From 1995, ensure that social assistance payments cover the actual cost of necessary goods and services (food, accommodation, clothing, recreation, transportation and insurance) consistent with overall community standards of living.

Objective: By 1995, develop programs to support gainful and meaningful employment for both low wage workers and employable persons with disabilities, to ensure these persons are better off, financially and otherwise, through employment than through social assistance.

Objective: By 1995, establish programs to enhance economic security for displaced workers.

Action: Institute legal mechanisms to protect workers's unpaid wages and benefits in the case of employment solvency, receivership or bankruptcy.

Action: Institute training, retraining programs and retirement preparation programs for displaced workers.

Objective: By 2020, reduce the level of unemployment among employable people with disabilities to at most the community average.

Action: Provide people with disabilities with personal and environmental employment supports, including physical access, suitable work environment, suitable transportation, and training skills development programs.

Goal 4: *Foster strong, safe, and supportive families and communities.*

Strategy 1: Increase individuals' opportunities to influence and contribute to their communities.

Action: Strengthen cooperative partnerships among community based associations.

Action: Support the community development activities of the Social Planning and Research Council, the Department of Public Health Services, and other organizations to assist individuals and communities to become empowered.

Action: Continue to support a community information system among community based associations.

Action: Include a human services section in the Regional Official Plan.

Strategy 2: Support initiatives which enable family members and neighbours to care for each other and for other members of their community.

Action: Promote child-care strategies which support families including adequate child-care spaces in community facilities, neighbourhood based parent/child resource programs, e.g.: toy lending services, parenting workshops, drop-in centres, and information and referral services) according to identified need.

Action: Promote employment strategies to balance work and family care responsibilities, e.g.: flexible working arrangements, leave with job security, reduced working hours with pro-rated benefits.

Strategy 3: Increase awareness of and response to domestic violence.

- Action: Create rapid response teams, consisting of trained individuals, to respond to domestic violence situations.
- Action: Enhance training of police officers to respond sensitively to domestic violence situations.
- Action: Support the development of an adequate number of emergency shelters for the victims of family violence.

Strategy 4: Improve services for youth aimed at preventing, identifying and treating psychosocial problems.

- Action: Support the Department of Public Health Services in their efforts to fulfil the Mandatory Programs and Services Guidelines on Healthy Growth and Development.
- Action: Develop, implement and evaluate innovative and specific school programs aimed at improving tolerance, cooperation and non-violent behaviour and reducing violent and aggressive behaviour.
- Action: Support the growth of appropriate referral linkages between schools and community-based social services and agencies.
- Action: Develop, implement and evaluate improved systems to monitor academic and personal development and to identify and respond to problems promptly.
- Action: Improve the availability of before and after school care programs and parent education.
- Action: Increase funding for teen and young adult recreation.
- Action: Provide community based workers to help teachers, parents and children overcome the problem of school yard violence.

Strategy 5: Increase police presence in the community.

- Action: Increase police participation in neighbourhood planning.
- Action: Promote the street beat system.
- Action: Coordinate police activities with revitalized Block Parent and Neighbourhood Watch programmes.
- Action: Extend police beat program to the schools.

Strategy 6: Increase the safety and security of neighbourhoods.

- Action: Incorporate into Official plans, neighbourhood plans and the public transit system "safe planning" features such as good lighting, adequate security systems, visibility, telephones, and immediate access to help .
- Action: Decentralize crime prevention education to the neighbourhood level.

Goal 5: *Ensure an accessible, affordable, nutritious and personally acceptable supply of food and safe drinking water for everyone.*

- Action: Support the Department of Public Health Services and other community agencies in their efforts to ensure an accessible, affordable, nutritious and personally acceptable supply of food and safe drinking water for everyone.
- Action: Ensure the provision of nutritious foods to preschoolers in group settings.
- Action: Develop and ensure the implementation of food policies in all schools.
- Action: Support community efforts to promote increased access to sufficient, nutritious and personally acceptable foods, such as community gardens, food coops.

- Action: Support the development of food policies for all food premises.
- Action: Work with the Province to ensure that social assistance payments are adequate to provide for sufficient, nutritious, and personally acceptable food.
- Action: Ensure the elderly have transportation to food or food to them.
- Action: Encourage and support women in their efforts to breastfeed.
- Action: Provide appropriate prenatal nutrition education to all women with special efforts made for high risk pregnancies.
- Action: Ensure municipal water contains fluoride at levels no less than 1mg. per litre.
- Action: Update standards for municipal water on a regular basis.

Goal 6: *Ensure accessible, affordable and adequate housing for all.*

Strategy 1: Support the implementation of the recommendations of the Regional Chairman's Task Force on Affordable Housing.

Goal 7: *Ensure a safe, high quality physical environment.*

Strategy 1: Reduce industrial emissions.

- Action: By 2000, establish a comprehensive data base and monitoring program on the Region's 500 largest industrial polluters.
- Action: By 2020, establish a comprehensive data base and monitoring program on the Region's 2000 largest industrial polluters.

Action: Apply political pressure to industry in the Ohio Valley to reduce emissions.

Action: Establish a Regional Environmental Office with a mandate to evaluate emission control policies utilized elsewhere, and to work with existing industry to develop emission reduction programs.

Action: Direct the Regional Economic Development Department to direct its energies to recruiting "clean" industries.

Strategy 2: Reduce motor vehicle traffic.

Action: Increase HSR ridership.

Action: Create "bus-only" and "car-pool" lanes during rush hours.

Action: Establish car pool parking lots at strategic locations.

Action: Create an extensive network of bicycle routes for both commuters and recreational riders.

Action: Investigate the feasibility of staggered work hours for Regional employees, and lobby other major employers to do the same.

Action: Investigate the feasibility of other incentives to reduce use of motor vehicles (eg. reduction of downtown parking spaces, differential parking rates based on number of passengers)

Strategy 3: Reduce the solid waste stream.

Action: By 1995, the Region should implement a Waste Management Strategy.

Action: Institute mandatory recycling.

Action: Set weight and volume limits for garbage collection and/or institute a user pays system.

Action: Advocate for provincial and federal programs for packaging reduction.

Strategy 4: Improve the quality of natural and recreational areas in the Region.

Action: Support the implementation of the Remedial Action Plan for Hamilton Harbour.

Action: Ensure that there is no encroachment on the Cootes Paradise natural areas.

Strategy 5: Maintain and/or improve the quality of groundwater and surface water in the Region.

Action: Develop and implement a Regional groundwater strategy, including a comprehensive study of existing groundwater resources.

Action: Ensure that drinking water from the Regional water treatment plan continues to meet Provincial and Federal guidelines, with no toxins exceeding the recommended maximum levels.

Action: Update standards for municipal water on a regular basis.

Strategy 6: Conserve water and other natural resources.

Action: Determine the feasibility of implementing full-cost accounting for water, which reflects capital costs as well as operating costs.

Action: By 2000, ensure that all Regional water users are metered.

Action: Consider institution of a by-law prohibiting new construction without high efficiency fixtures (eg. low flush toilets, low flow shower heads, high-efficiency furnaces).

Strategy 7: Reduce the rates of work accidents, time-loss injuries and industrial disease in the Region.

Action: Encourage occupational health and safety program development with grants and tax relief.

Action: Set an example for the private sector.

Action: work with McMaster University and Mohawk College to improve education of health professionals in occupational health and safety.

Strategy 8: Improve the information base relating to environmental quality in the Region.

Action: Publish Regional State of the Environment Reports bi-annually by the year 2000.

Goal 8: *Ensure equitable access to quality life-long learning which:*

a) *enables people to contribute meaningfully to their community and is relevant to a broad range of employment ("needs-based education");*

Action: Have in place local mechanisms developed jointly by government, educators, business/industry and organized labour to link skill and knowledge formation and retraining to the requirements of the economy.

Action: Enhance the value placed on skilled trades.

Action: Develop greater opportunities for training in skilled trades, in relation to identified community needs.

b) *affords opportunity for people to maximize their potential;*

Action: Increase the proportion of adults who are functionally literate.

Action: Increase the number of young adults who have completed high school.

- c) *equips people adequately to make choices for themselves throughout their lives;*

Action: Increase the proportion of adolescents and adults who understand sustainable development and the determinants of health, and assume responsibility for areas within their control.

Action: Increase the proportion of adolescents who are adequately informed of social, psychological, ethical and medical implications of sexuality.

Goal 9: *Support and foster cultural institutions that reflect our historical development and the contributions of our diverse population (Refer to the Report of the Implementation Team on Cultural, Historical and Educational Resources).*

Goal 10: *Increase the number of years of good health for the citizens of Hamilton-Wentworth by reducing illness, disability and premature death. (Objectives are adopted directly from the those of the Premier's Council on Health Strategy, which were based on Ontario-wide data; Many of the strategies are derived from Infowatch publications of the Health Priorities Analysis Unit at McMaster University.)*

Strategy (applicable to many of the objectives):

Support the Department of Public Health Services in their efforts to implement Mandatory Programs and Services Guidelines.

Objective 1: Reduce tobacco consumption.

By the year 2000:

- a) reduce total tobacco sales by at least 50%
- b) reduce the percentage of young people aged 12-19 who smoke to 10%
- c) reduce the percentage of women who smoke to 15%

- d) reduce the percentage of men who smoke to 15%.
- e) increase to 100% the number of schools, workplaces and public places that are smoke free.
- f) eliminate sales of tobacco products to minors.
- g) eliminate use of tobacco products by pregnant women.

Strategy 1: Provide smoking prevention curriculum in all schools.

Strategy 2: Enforce legislation prohibiting minors from purchasing tobacco.

Strategy 3: Provide smoking cessation programs in schools.

Strategy 4: Promote non-smoking in prenatal and postnatal classes.

Strategy 5: Provide smoking cessation programs in the workplace.

Strategy 6: Approve and enforce legislation to prohibit smoking in the workplace and in public places.

Strategy 7: License stores that sell tobacco.

Strategy 8: Increase fines for selling to minors.

Strategy 9: Support the efforts of the Hamilton-Wentworth Interagency Council on Smoking and Health.

Objective 2: Reduce alcohol consumption.

By the year 2000:

- a) reduce the average annual adult consumption of alcohol by 25%
- b) reduce alcohol-involved motor vehicle accidents by 50%
- c) reduce use of alcohol among young people aged 12-18 by 50%.
- d) reduce incidence of fetal alcohol syndrome by 25%.

Strategy 1: Support the prevention efforts of the community eg) Hamilton-Wentworth Substance Abuse Community Action Group, Drug and Alcohol Awareness Week in November, PRIDE, Addiction Research Foundation, drug and alcohol education in all three Hamilton Boards of Education, Mohawk College and McMaster University.

Strategy 2: Support the treatment and support services available to people who recognize their drinking problem and for those coping with a lived one with a problem.

Strategy 3: Support the RIDE program.

Strategy 4: Support the recommendations in the report of the Hamilton-Wentworth District Health Council, (June, 1992), the "Addictions Services Study: Community Needs Assessment"; the recommendations together address health promotion, early identification and intervention, treatment and rehabilitation for healthy individuals and communities.

Objective 3: Increase the proportion of the population practising healthy eating and physical activity habits.

By the year 2000:

- a) increase to at least 50% the percentage of people age 18 and older who participate in physical activity equivalent to daily brisk walking for at least 60 minutes.
- b) increase to 100% the percentage of children and youth from Kindergarten to high school who participate in daily physical activity within the school program.
- c) reduce the consumption of dietary fat by 20%, from 38% to 30% of total calories.
- d) reduce the percentage of adults who have a body weight-for-height that puts them at increased risk to health by 33%, from 30% to 25%.
- e) increase the proportion of the population practising healthy eating habits.

Strategy 1: Develop and support programs aimed at developing food purchasing and cooking skills targeted to the needs of various groups in the community eg. worksite programs, Supermarket Safari.

Strategy 2: Develop and support programs to promote healthy body weights in the community especially among vulnerable groups such as middle aged men and adolescent girls.

Strategy 3: Ensure the provision of reliable and appropriate nutrition education curriculum in all schools.

Objective 4: Reduce illness, disability and premature death from heart disease, stroke, and cancer.

By the year 2000:

- a) reduce by 50% the number of people with diastolic blood pressure greater than 100 mmHg.
- b) achieve screening for breast cancer in 70% of women aged 50-69.
- c) achieve screening for cervical cancer in 90% of sexually active women age 18-64.
- d) increase the availability of radiotherapy facilities to permit the provision of appropriate radiotherapy to those newly diagnosed cases that require it (approximately 45% of new cases).

Objective 5: Reduce illness, disability and premature death arising from mental illness.

By the year 2000:

- a) reduce the overall suicide rate in the Region by 50%
- b) increase by 10% the number of people with schizophrenia who have full-time or part-time jobs.
- c) reduce disability arising from schizophrenia and dementias of the Alzheimer type.
- d) reduce the incidence of suicide among adolescents and the elderly.

Objective 6: Reduce disability among physically and mentally impaired citizens and increase their integration into the community.

By the year 2000:

- a) reduce the incidence of disablement due to musculoskeletal and sensory disorders.
- b) reduce disability arising from developmental impairment.
- c) support the recommendations in the Mental Health Plan, Hamilton-Wentworth District Health Council, June 1992, and the I.D.E.A.L. Report, that address the well being of persons with mental health problems through housing, employment, social and recreational integration in the community.
- d) support the recommendations in the report of the Regional Advisory Committee for the Physically Disabled, Long Term Care Subcommittee, (September 1991), the IDEAL Report - Integrating People with Disabilities into Every Aspect of Daily Living.

Objective 7: Reduce perinatal and infant mortality and long-term morbidity of perinatal origin.

By the year 2000:

- a) reduce the low birthweight rate by 40%
- b) reduce perinatal mortality among those of low birthweight by 40%
- c) reduce the burden of morbidity of perinatal origin by ensuring that 100% of newborns receive appropriate perinatal care.
- d) ensure a comprehensive parent support program is in place.

Objective 8: Reduce illness, disability and premature death from AIDS and HIV infection.

By the year:

- a) 1995, reduce the spread of HIV infection in the population
- b) 2000, increase the average number of years between detection to HIV infection and progression to symptomatic AIDS and terminal illness.
- c) 1995, increase the number and knowledge base of health care providers providing adequate and effective treatment and care to people living with AIDS and HIV infection.
- d) 2000, increase the knowledge base of all medical and social aspects of HIV infection and AIDS.
- e) 1995, improve the provision of supportive social environments for people living with AIDS and HIV infection, including housing, community and social services.

Objective 9: Reduce injury and death arising from motor vehicle traffic accidents.

By the year 2000:

- a) reduce motor vehicle accidents (MVA) by 15%
- b) reduce the death rate due to MVA in the 0-14 age group by 41%
- c) reduce the death rate due to MVA in the 15-24 age group by 22%
- d) reduce the death rate due to MVA in the 25-34 age group by 22%
- e) increase compliance regarding adult restraint use in cars to 95%.
- f) increase compliance regarding infant and child carrier use in cars to 95%.

A Report
of
The Implementation Team
on
Physical Services &
Waste Management

Prepared for
The Regional Chairman's Task Force
on Sustainable Development

July 15, 1992

Preface

This report is one of eight prepared for the Regional Chairman's Task Force on Sustainable Development. The Task Force on Sustainable Development is mandated to develop a Regional Vision Statement integrating economic, social and environmental goals and to design an implementation strategy to make the vision a reality. Councillor Don Ross, Chairman of the Economic and Development Committee, chairs the Task Force.

The Task Force, meeting since the spring of 1990, undertook an extensive public participation process which resulted in the preparation of "VISION 2020", a statement of the type of community Hamilton-Wentworth should be in the year 2020. With the completion of "VISION 2020" in June, 1992 the Task Force moved into the final phase of its mandate, the development of an implementation strategy for the vision.

To assist in the creation of its implementation strategy the Task Force organized eight implementation teams around specific topic areas. These being:

- Agriculture, Rural Settlement and the Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-Being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical and Recreational Resources; and
- Natural Areas and Natural Resources.

Each implementation team was charged with the responsibility of reporting to the full Task Force on the best tools for reaching the vision stated in "VISION 2020". Recommended actions are directed to Regional Government and its departments, as well as, the area municipal governments, the provincial and federal governments, and other appropriate bodies, such as, conservation authorities and school boards.

The implementation team final reports were presented to the Task Force in July, 1992. The Task Force, over the remainder of its mandate and with appropriate public input, will combine the seven reports into one comprehensive strategy for achieving the sustainable community envisioned in "VISION 2020".

Acknowledgement and Disclaimer

The views and ideas expressed in this report are those of the authors and do not necessarily reflect the views, policies, or opinions of the Chairman's Task Force on Sustainable Development, or the Regional Municipality of Hamilton-Wentworth and its departments and agencies.

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Introduction

The Physical Services and Waste Management Implementation Team identified five areas within its domain:

- population and urban expansion
- water resources and the hydrologic cycle
- municipal and hazardous waste management and contaminated sites
- air quality
- energy use

Our implementation team mandate was deemed to embrace the broadest spectrum of all the groups because of the diverse nature of the impacts that these areas involve. They are critical to issues of human health, the natural environment, the Region's economic future, and indeed, to the social and cultural fabric of our society.

In preparing an action plan for implementing Vision 2020, we chose to organise our report to the Task Force according to the areas noted above using three broad divisions - the current state (basic facts, constraints, opportunities), goals, and a listing of strategies consistent with these goals. The major issues we believe are central to the five subject areas are briefly described below.

Population and Urban Expansion

Accommodating population growth within the Region may not presently be a problem, but the geographic distribution trends that are accompanying the current moderate increase in population is disturbing. In addition, there is the unaddressed issue of the long-term carrying capacity of the Region, which requires a broader definition than the amount of waste that Hamilton Harbour and associated waterbodies are capable of absorbing on a sustainable basis, and which must include limits to the amount and type of substances that can be discharged into the air or deposited in the ground. For example, the notion of carrying capacity should include the premise that natural ecosystems be preserved and enhanced, and that the experience of nature is an essential part of every person's spiritual and psychological needs. We therefore feel that there needs to be a much greater emphasis on redevelopment and intensification of existing urban areas if farm lands, green space, natural habitats, and environmentally sensitive areas are to be adequately protected. As a result, we have endeavoured to address the issue of urban boundaries. Allowing growth of human settlements to continue to consume land -whatever the description - is inconsistent with a sustainable society.

Water Resources and Hydrologic Cycle

Substances that are discharged into our waters - be they surface or ground water - eventually show up in our water supplies and in the food chains of our natural ecosystems. It is recognised that while groundwater reserves serve the needs of only 10 percent of the Region's population, ensuring a high quality of this resource is of the utmost importance for rural residents that rely on well water and for the health of natural communities that require uncontaminated water at some stage of the hydrologic cycle (i.e. below the water table or upon discharge into lakes and streams). And while there is an ample supply of Lake Ontario water available to the remaining residents of the Region, there remain significant concerns about the effects of the disposal of untreated wastewater and stormwater into Hamilton Harbour (during severe storm events), and about the long-term impacts of the release of persistent contaminants either directly or indirectly into Hamilton Harbour, Lake Ontario, and the Region's streams and groundwater. An additional concern is that of the protection and improvement of the Region's aquatic ecosystems, which can be assumed to include fish, waterfowl and riparian and littoral vegetation.

Municipal and Hazardous Waste Management and Contaminated Sites

Every ecosystem inevitably has a limit to the amount of waste it can absorb or tolerate; Hamilton-Wentworth's water, air and land and associated physical and biological systems are no different. We must recognise how wasteful a society we have become, and how essential it is that our community adopts a new ethic of resourcefulness, minimizing consumption and substantially reducing the generation of wastes. To this end, goals and strategies embracing the three R's are presented together with a set of recommendations that endorse the principle of virtual elimination of hazardous waste materials. And, in the area of site rehabilitation, strategies addressing the issue of their de-contamination are proposed.

Air Quality

Of all the natural resources we depend on, few resources are as important or as commonly ignored as that of fresh, breathable air. Changes in the quality of the air is perhaps far more important to the health of the residents of the Region than the state of the land or water. Particles in the air and certain types of gases can have adverse effects on our respiratory systems, the destruction of the ozone layer in the atmosphere could have disastrous effects

on our skin and eyes, and changes in the composition of the atmosphere could have severe repercussions for our climate. At the present time, the major causes of outdoor air pollution in the Region are motor vehicles, industry and trans-boundary sources. A transportation plan that emphasizes public transit, bicycle use and pedestrian ways would improve air quality in our urban areas substantially. And, while industry has made major strides in cleaning up, there are further improvements needed in utilizing emission control technology more effectively. Indoor air is also of concern in many homes and commercial/industrial buildings. Strategies are presented to address these issues as well.

Energy Use

Although the use of energy would not appear to have any immediate effects on our natural environment or our society, the reality is that our use of energy has a tremendous indirect effect on the sustainability of our community. The amount and types of energy we use to manufacture products, provide services, transport people and goods, and heat or cool our structures plays a significant role in determining how economically competitive our firms are, how much wealth we export outside of the Region to pay for energy imports, how much carbon dioxide we release into the atmosphere, and how much air pollution and acid rain we indirectly cause. Substantial savings in energy consumption could be effected relatively easily if energy conservation practices were adopted in the residential, commercial and industrial sectors. This is important in the context of conventional fossil fuel burning because of the threat of global warming, air pollution, and the loss of non-renewable resources. Alternative fuels and solar/wind energy technologies need to be encouraged at all levels. Meanwhile, buildings need to be examined in the context of energy consumption and pollution generation, while our transportation systems must discourage the use of the private motor car and encourage the use of railways, which are a very efficient means of moving people and goods.

Population and Urban Expansion

1. Recognising that:

- * Opportunities for redevelopment and intensification exist in already developed urban areas with good access to schools, transit, as well as recreational, cultural, social and commercial services.
- * Neighbourhood opposition to intensification -- the "nimby" (not in my backyard) attitude and an overly restrictive zoning at the Area Municipality level make redevelopment and intensification unnecessarily difficult in existing urban areas.
- * An excessive societal reliance on the automobile is reflected in the current regulatory or standardized guidelines for street width, subdivision layout, parking requirements, and density provisions; these standards have led to an underutilization of developed land in the suburbs and high infrastructure costs (road, sewer, water, etc.).
- * Much of the growth over the past two decades has occurred in suburban municipalities, resulting in losses of farmland and greenspace.
- * Although the Ministry of the Environment has retained the authority to approve or refuse requests to use the communal services in rural areas, it is shifting responsibility for taking over these services to the Regional Municipalities in the event that they fail. As a result, Hamilton-Wentworth will be forced to use its land-use planning powers to refuse applications for rural subdivisions that include planned communal services for which the Region does not want to be held responsible for.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That development opportunities are provided which promote the efficient use of new or existing infrastructure and services.**

And that this goal be achieved by utilizing the following strategies:

- * *The Region should request that the Province review its financial policies with a view to encouraging compact urban forms; this review should have regard for natural resources features which have traditionally been considered to have no economic value.*

- * *Eliminate all Regional subsidies for extension of water pipes to rural areas.*
- * *The Region should address the oversupply of land designated for industrial use by redesignating for other uses (e.g. mixed commercial-residential) and/or formulating staging policies so that industrial areas are serviced only as the existing industrial land supply already serviced is depleted to a certain level (e.g. 10-year supply).*
- * *The Region and Area Municipalities should plan newly developing industrial areas at employment densities which permit the efficient provision of transit services.*
- * *The Region should use development charges to encourage the efficient use of land through redevelopment, intensification and higher densities in newly developing areas.*
- * *The Region should organize an annual conference for municipal engineers on alternative standards and sustainable development.*
- * *The Region should reallocate municipal subsidies from roads to public transit.*
- * *The Region should focus economic development strategies on redevelopment, infill and use of vacant buildings within the existing developed area.*
- * *The Region should more closely co-ordinate its long-range land-use planning (through the Official Plan) more closely with plans for infrastructure provision. The Official Plan should be more precise about which areas will be serviced next, and about which areas will be allowed to develop in which order.*
- * *The Region should undertake detailed land-use planning (i.e. individual site and subdivision) only after having undertaken detailed environmental analyses and infrastructure provision studies. Environmental analyses should include subwatershed planning and stormwater management studies, examinations of existing natural resources and remaining natural heritage areas, and evaluations of carrying capacities related to septic system use, groundwater use or other pertinent issues. Infrastructure provision studies should provide estimates of construction, maintenance and operations costs as well as environmental degradation associated with construction according to alternative scenarios.*

- * *The Region should thoroughly monitor and review the availability and suitability of the supply of vacant industrial, commercial and residential land.*

2. Recognising that:

- * The demographic trends of the Region--e.g. slower than average growth in the province, an existing 17-22 year supply of vacant designated urban residential land, along with an existing 57 year supply of industrial land--are conducive to considering alternative urban development options. Managing population growth would not seem to be an issue; managing where that growing populace lives and works is an issue.
- * Some costs associated with continued low density development are not widely appreciated, such as higher commuting costs, declining use of public transit, the loss of natural habitats and agricultural land, increased carbon dioxide emissions and reduced access to services.
- * The cost of land acquisition in the existing urban (developed) area is high relative to outlying areas.
- * The majority of properties on rural/urban fringe are held by investors or speculators anticipating expansion.
- * The population in suburban and rural areas of Flamborough, Ancaster and Stoney Creek could grow at considerably greater rates than indicated in the current projections in coming decades if the Greater Toronto Area undergoes another period of rapid expansion and Hamilton-Wentworth becomes part of the Toronto metropolis.
- * Decisions to service rural areas can lead to pressures for urban expansion and/or future pollution problems and/or demand for more services.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That changes to the urban boundary are considered in a comprehensive, consistent manner, with emphasis on the efficient provision of services, and that prime agricultural lands and natural areas are protected from urban expansion.**

And that this goal be achieved by utilizing the following strategies:

- * *Changes to the Regional Urban Boundary should be considered only during the five-year Official Plan Review. Through this process, the community has the opportunity to consider the various alternatives for accommodating growth and to identify a preferred option.*
- * *Changes to the Regional Urban Boundary should be based on the need for additional land to permit the development within a ten-to-fifteen year planning timeframe. Population projections and a review of alternative scenarios for development within the existing urban area are considered.*
- * *The Region should establish a stakeholder group/task force consisting of citizens and representatives from a range of community groups, business, and labour, to guide the public participation process for all future Official Plan Reviews.*
- * *If additional urban designations are required, the various options should be assessed according to financial costs and benefits (e.g. cost of servicing, not just construction but maintenance etc.), environmental impacts (e.g. impacts on natural areas and loss of prime agricultural land), and social considerations (e.g. provision of affordable housing, access to services).*
- * *Area Municipal Official Plan Amendments for expansions to the urban area should be initiated only after the lands have been approved by Regional Council for urban expansion during the five-year Official Plan Review (see above). Urban expansion is a long-term, strategic planning exercise, and as such, should be most easily and appropriately accommodated in the major O.P. Review.*
- * *Regional policies must be clear, and clearly communicated to the development community, whose business is heavily dependent on these policies and how they are interpreted. For example, no Regional representative (political or staff) should imply to landowners/developers that excess capacity in roads or sewers will lead to the inevitable expansion of the urban envelope to that area.*
- * *The Region should change the mandate/mode of operation of the Land Division Committee, to establish a clear set of rules for decision making.*
- * *There should be an emphasis on redevelopment in the Region; Regional Official Plan policies should encourage the construction of commercial, residential, and industrial structures in infill areas in urban locations.*

- * *The Region should request that the Province change the mandate of the Ontario Municipal Board, so that cases are considered only when principles of natural justice and/or Provincial policies are violated.*
- * *Following from above, there must be consistent review of development applications at the Regional and Area Municipal level. This is vital if all of the "new rules" of sustainable development are to be learned by the development industry, and respected.*
- * *The Region should establish a working group consisting of Regional staff, politicians and community representatives to examine alternative political structures/arrangements (e.g. one tier government, directly elected Regional politicians) which would provide incentives for bringing broad, long range perspectives to decision-making.*
- * *The Region should adopt Official Plan policies which recognize the value of, and protect, agricultural uses on the urban fringe (i.e. small farms interspersed with urban uses as well as natural areas).*
- * *The Region should develop Official Plan policies which effectively protect natural areas, and which ensure that significant vegetation communities, wildlife populations and their habitats be maintained and enhanced.*
- * *Regional rural land trusts should be developed in the "most rural" area municipalities (e.g. Glanbrook) in order to compensate them for the lack of urban development opportunities and resulting tax revenues. The trusts will be contributed to by area municipalities where urban development is occurring. These areas will be preserved as rural/agricultural for the benefit and enjoyment of all of the citizens of Hamilton-Wentworth.*
- * *The Region should establish targets and policies to strictly limit or eliminate rural severances, expansions to rural settlement areas, rural estate development, rural mobile home development, and site specific amendments to permit urban uses in rural areas, based on the cumulative impact of these developments upon agricultural land, natural features, ground water quality and demand for infrastructure and services.*

3. Recognising that:

- * There exists the perception (political/community) that we should encourage "growth for growth's sake" in combination with the additional perception that "more designated (urban) land equal faster growth and/or increased prosperity".
- * The residents, staff and elected officials of the Region will inevitably have to face the fact that the Region does have a limited carrying capacity based on the amount of land available and on the amount of wastes and contaminants that can be absorbed by the Region's air, water and land.
- * Carrying capacity limits are inevitably arbitrary figures produced using current assumptions about existing technologies, per capita consumption of products, and per capita production of wastes. Assigning a "carrying capacity" is particularly difficult when significant value judgements and/or assumptions are required as part of the equation (e.g. the Region should continue to discharge from the STP into Hamilton Harbour instead of Lake Ontario, or per-capita ownership of cars will continue to increase).
- * The population is aging; by 2020 there will be fewer children, an older workforce and more seniors.
- * Continuous population growth and urban expansion will result in a degradation of certain quality of life features in the Region.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That population change is managed according to the principles of sustainable development, rather than encouraged at all costs, and that population growth and urban development is only allowed to take place in so far as the Region's environmental carrying capacities are not exceeded.**

And that this goal be achieved by utilizing the following strategies:

- * *The history of moderate population change in Hamilton-Wentworth is emphasized as a positive component of the Regional identity.*

- * *Plans to accommodate population change should consider potential impacts on the Regional environment (impacts on air and water quality and the state of land resources).*

Water Resources and Hydrological Cycle

4. Recognising that:

- * Groundwater reserves are an extremely valuable asset and that approximately 10 % of the Region's citizens reside in unserviced areas that are dependent on these reserves for their household water supplies.
- * The potential exists for groundwater reserves to be contaminated by disparate biological and chemical pollutants. Unprotected or poorly maintained wells are susceptible to bacteria from nearby septic tank systems, agricultural practices and surface runoff. Excessive concentrations of nitrate and sodium emanating from the application of agricultural and domestic fertilisers, road salting, private sewage disposal systems, and natural sources have been found in samples taken from rural wells. Other less common pollutants encountered in this Region include benzene and other petrochemical contaminants leaked from underground fuel tanks, heavy metals from industrial and landfill sites, and pesticides from agricultural operations.
- * The over-use of specific aquifers can lead to a falling of the water table and the failure of wells using these aquifers. Significant alterations to nearby landscapes, particularly in aquifer recharge areas, can lead to the failure of wells.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That the condition, capacity and geographical locations of the Region's groundwater be accurately defined within five years.**

And that this goal be achieved by utilizing the following strategies:

- * *Conduct a groundwater resource management study to provide the following information:*

- a) *Delineation and evaluation of the hydrological, geological, chemical, and geographical attributes of the Region's groundwater resources.*
- b) *Identification of existing and potential threats to groundwater resources with an emphasis on those sources of pollution which may have an impact on private well water supplies, wetlands, streams, and recreational waters. Potential threats should include, but not be restricted to, residential development, landfill sites, and industrial practices.*
- c) *An analysis of existing Regional groundwater protection policies and an evaluation of groundwater protection policies utilized elsewhere in North America and Europe.*

5. Recognising that:

- * Recent research has shown that effluent from septic tank systems may form plumes in underground flows which can combine to create underground streams of contaminants that can easily pollute aquifers within their paths.
- * The Region's rural areas are undergoing a dramatic change in land use patterns which could have profound implications both for the state of our groundwater resources and for the Region's water and sanitary sewer servicing strategies. In recent years a rapid decline in the population of the farming community has been combined with a rapid increase in the number of ex-urbanites moving to rural areas. Residences for these new rural inhabitants tend to be much larger and concentrated more densely than those of traditional rural residents, and the occupants often have little or no knowledge of the maintenance requirements associated with private services or the consequences of groundwater contamination.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That new development should be not be allowed to take place in those areas where the cumulative impact of landscape alterations and/or septic system use could threaten the quantity or quality of groundwater resources, and that where new development is allowed to take place that all possible precautions are taken to ensure that groundwater quantity and quality are not threatened.**

And that this goal be achieved by utilizing the following strategies:

- * *The Region should change the Official Plan to ensure that lots created by severance or subdivision in non-serviced area have sufficient land available to accommodate private services and to provide for adequate dilution of effluent. In most cases severance and subdivision approval should depend on staged development plans and monitoring of cumulative impacts rather than on simple minimum lot sizes based on soil types.*
- * *The Region should severely restrict development in parts of the Region that are not serviced with Regional water and sewers. New residential and industrial development should take place in designated urban areas, where services are already or will soon be provided.*
- * *Development of rural subdivisions not provided with Regional water and sewer services should only be permitted when the need for the subdivision has been proven and satisfactory hydrogeologic and geotechnical evidence has been provided which shows that the proposed development can be sustained without negative impacts on existing groundwater reserves. Monitoring of wells should be part of the approval process in order to measure the actual results of the development.*
- * *The Region should lobby the Province to overhaul the Environmental Protection Act, and the regulations made thereunder, and other legislation and policies associated with rural servicing issues, to adequately deal with the vast changes which have taken place in land use patterns, technology, and scientific knowledge since its inception.*
- * *The Region should lobby the Province to conduct a survey through the Ministry of the Environment, or finance a Regional survey, to determine the number and location of abandoned wells in the Region. Action would then be taken to enforce existing legislation requiring that these wells be properly plugged.*
- * *The Region should lobby the Province to change the regulations pertaining to wells so that new wells would be subject to inspection by Regional Health Services or Ministry of the Environment personnel at the time of installation. A well should not be put into use until a "use permit" is issued signifying that the well construction meets Provincial standards.*

- * *The Region should include an environmental fee in development charges levied in unserviced areas that would be put into a fund utilized exclusively for remediation purposes where monitoring shows that degradation of the groundwater reserves has occurred.*

6. Recognising that:

- * While well contamination in this Region has tended to be isolated and attributable to poor maintenance on the part of the homeowner, some municipalities in Ontario (e.g. Waterloo) and other parts of North America have suffered widespread contamination from sources such as chemical dumps, leaking fuel tanks, old and operating landfills, and pesticide application. In southern and eastern Ontario, significant problems have been caused by the discovery of NDMA and perchloroethylene in groundwater reserves used to provide potable water.
- * In Ontario, the protection of groundwater resources and regulation of septic systems and other sources of groundwater contamination is predominantly the responsibility of the Ministry of the Environment. However, Regional policies can and do supplement MOE policies in the area of groundwater protection. Regional policies regarding provision of full municipal services or communal services in rural areas, regulation of subdivisions and severances in rural areas, and testing of well water for health hazards all have a major impact on groundwater protection and use.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That all significant sources of potential chemical contamination be identified and eliminated by the year 2010.**

And that this goal be achieved by utilizing the following strategies:

- * *The Region should implement an educational promotion to alert the general public to the detrimental environmental impact of, and encourage the use of alternatives to, the domestic use of fertilisers, weedkillers, pesticides, septic system cleaners, drain openers, root killers, etc.*

- * *The Region, Area Municipalities and Conservation Authorities should cooperate on establishing and implementing a strategy to greatly reduce the use of pesticides within the Region. This strategy should include reduction targets to be implemented by specific dates. If necessary, a by-law should be adopted and enforced by the Region.*
- * *The Region should lobby the Province to use its agencies (MOE, MNR, OMAF) to reduce pesticide use where ever possible in both rural and urban areas.*
- * *The Region should cooperate with the Ministry of the Environment and other relevant agencies in identifying and eliminating potential sources of groundwater contamination. The Region should lobby the Ministry of the Environment to take a more proactive role in dealing with contamination problems by using old insurance records, assessment maps, and aerial photos to identify and locate potential contamination sources such as abandoned gas stations, old landfill sites, and certain types of industrial sites.*

7. Recognising that:

- * The Region's main source of water is Lake Ontario, which would allow for a supply of potable water that could service a population of well in excess of 500,000.
- * Lake Ontario water is currently of a quality that is adequate to provide the Region with a source of raw water.
- * The quality of the seven Regional groundwater wells is currently satisfactory.
- * The present Regional water treatment plant is currently treating and pumping an average of 290,000 M3/day and can reach a maximum of 650,000 M3/day and is capable, if enhanced, (at a cost of approximately \$1,250,000) of treating and pumping its designed capacity of 900,000 M3/day.
- * Should current aluminum residual levels be identified as a quality problem, it is possible to change to a different coagulant or treatment process with an additional cost.

- * The Canadian (300 ppb) and American (50 ppb) standards for trihalomethanes are currently being met, but if the European standard (25 ppb) was adopted, treatment costs could increase by a factor of ten over the current costs of using chlorine.
- * While the capacity of the municipal water supply system is such that the entire Region could theoretically be serviced with water, any significant expansion of the water distribution system outside of designated urban areas in an unorganised fashion would result in.
 - a) Overloading of septic tank systems, with a concomitant demand for municipal sewers,
 - b) vast capital expenditures associated with any extensions of the water distribution system,
 - c) significant increases in the long-term maintenance costs associated with the water distribution system, and
 - d) an increase in the cost of providing other municipal services to residents spread throughout the Region in piecemeal, fragmented rural developments.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To provide potable water, to areas designated as urban, of a quality and quantity required by the population of the Region.**

And that this goal be achieved by utilizing the following strategies:

- * *For the Regional Environmental Services Department to continue with the current maintenance program for the Regional water infrastructure.*
- * *For the Regional Environmental Services Department to ensure that potable water supplied by the Region at least meet the minimum Provincial and Federal standards.*
- * *For the Regional Environmental Services Department to enhance and improve the Regional Water Treatment Plant as is required to meet the desired capacity.*

- * *For the Regional Environmental Services Department to monitor and review scientific and professional literature from around the world to ensure that Regionally-supplied water is of an adequately high quality to meet human health requirements, and if necessary, to suggest changes to plant and equipment to improve that quality.*

8. Recognizing that:

- * Although the Region is capable of providing significantly more high-quality water to the households and businesses of Hamilton-Wentworth with only minor improvements to the water treatment plant, a reduction in water use would allow the Region's sewage treatment plants to treat some of the water that currently is diverted to overflows during storm events, and thus achieve a reduction in the total pollution loadings to the Harbour.
- * Conservation strategies, including the distribution of water-saving devices and the use of user-pay charges, already in place or about to be put into place, are predicted to significantly reduce current levels of water use by Regional residents and businesses in the near future.
- * The majority of the Region's households still are not metered.
- * Some major industrial water users have the capability to switch to Hamilton Harbour or Lake Ontario water directly and therefore can avoid Regionally-initiated user fees.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To reduce the combined municipal water use of households and businesses (708L/day) by 50 percent by the year 2000 through the use of conservation strategies, and to use the "user pay" philosophy in delivering water services.**

And that this goal be achieved by utilising the following strategies:

- * *For the Region to promote water conservation through industrial practice changes, water conservation in homes through retrofitting, designation of a water-conserving building code (an Area Municipality responsibility), and through information programs and pricing policies. This improves sewage treatment plant and sewage system efficiency, particularly in areas with separated sewer systems.*
- * *For the Region to continue distributing information kits on methods of reducing water use.*
- * *For the Region to continue the process of metering all residences and businesses in Hamilton-Wentworth.*
- * *For developers to pay entirely for the extensions of water services to new subdivisions (with the exception of required over-sizing).*
- * *For the Region to reduce development charges in infill areas of the Regions such as lower Hamilton where surplus water capacity already exists.*
- * *For the Region to charge enough for water to cover the following costs: capital costs, maintenance costs, operating costs, and adverse environmental impact costs associated with the provision of water.*

9. Recognising that:

- * The Regional Department of Environmental Services is responsible for dealing with the sewage produced by the vast majority of the Region's households and businesses.
- * Hamilton Harbour and Cootes Paradise have been overloaded in the past with suspended solids, nutrients, and bacteria. A major source of these pollutants has been the Regional Sewage Treatment Plants, but these types of pollution have also come from upstream sources, from storm water flows, and from direct industrial discharges.
- * Wastewater treatment at the Regional Sewage Treatment Plants and the industrial outfalls has improved markedly in the past five years with more than 50 % reductions in phosphorus and ammonia (N) discharges.

- * All three Regional Sewage Treatment Plants currently meet their Certificate of Approval (Ministry of the Environment) requirements.
- * The Waterdown Sewage Treatment Plant is currently operating at capacity, and the Dundas Sewage Treatment Plant is not expected to have its hydraulic capacity increased, and as a result there will be a significant cost to expand the Woodward Avenue Treatment Plant to enable it to accept any outflow from Waterdown and Dundas Treatment Plants.
- * Implementing the majority of the improvements to the Woodward Avenue Sewage Treatment Plant included in the Remedial Action Plan will cost hundreds of millions of dollars.
- * Increased removal of materials through treatment at the Woodward Sewage Treatment Plant will inevitably result in higher energy use at the plant as well as increased production of sludge. Some energy can be retrieved through oil-from-sludge technologies or use of methane from the STP digesters to heat the STP/sewage or to co-generate electrical energy.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To reach the targets established for the Regional Sewage Treatment Plant loadings of suspended solids, nutrients, and other elements to Hamilton Harbour and Cootes Paradise in the Hamilton Harbour Remedial Action Plan.**

And that this goal be achieved by utilising the following strategies:

- * *The Regional Environmental Services Department should undertake the necessary capital improvements to the Woodward Avenue Sewage Treatment Plant needed to meet the added restrictions on loadings to Cootes Paradise and Hamilton Harbour included in the Hamilton Harbour Remedial Action Plan.*
- * *When the Dundas Sewage Treatment Plant reaches its capacity, excess wastewater should be transferred to the Woodward Avenue Treatment Plant for proper treatment.*

10. Recognising that:

- * Inappropriate discharges to sewers are common from both residential and industrial sources, and that significant amounts of dangerous or toxic materials are as a result discharged into the Regional sewer system.
- * Although not specifically designed to catch toxic contaminants, the Woodward Avenue Sewage Treatment Plant is still quite effective at reducing the amount of harmful or toxic contaminants discharged into the sewer system. Unfortunately, a certain portion of these contaminants will still eventually make it into the Harbour.
- * To effectively deal with the problem of discharges of harmful and toxic contaminants to the Regional sewer system, the problem must be dealt with at the source and households and businesses will have to be convinced of the necessity of regulating their own discharges to the wastewater system.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To virtually eliminate discharges of toxic contaminants from the Regional Sewage Treatment Plants.**

And that this goal be achieved by utilising the following strategies:

- * *The Region should continue with its program to monitor the sewer system and its users, and continue enforcing the Sewer Use Control By-law which restricts the discharge of contaminants into the wastewater system.*
- * *The Region should continue investigating, and where possible implement, new technological means of eliminating harmful and toxic contaminants from entering the Harbour from the Woodward Avenue Sewage Treatment Plant.*

11. Recognising that:

- * The urban sewer collection system is a mixed separate and combined system in the Region, with a large section of Hamilton being on a combined sanitary and storm sewer system. This means that during storms involving a heavy downfall of precipitation, the combined sewer system overflows at 20 to 25 locations along the south shore of the

Harbour and Cootes Paradise because of the limited capacity of the system to accommodate the increased flows.

- * The overflow occurs because a sewage treatment plant and sewer collection system has been built that can accommodate only a slight higher than normal flow of wastewater (dry-weather peak flows). Since storm flows can double the amount of wastewater in the system, it would be prohibitively expensive to rebuild the system to accommodate the storm flows on those few occasions when precipitation is heavy.
- * The Region has begun to address the problem of combined sewer overflows through the installation of retention basins that allow most storm water to be collected during the rainfall or snowmelt. The water and wastewater, so collected, is released back into the regular sewer system when the capacity of the sewage treatment plant is less loaded. Twenty-five percent of the overflow volume has been dealt with in one retention basin (Greenhill Ave. site). Three overflow sites (CSO) in Cootes Paradise (1) and in the area of the Hamilton Park (2) are currently being established.
- * Urban runoff collected in the storm sewer system usually contains enough organic material, bacteria, and contaminants that treatment is preferable to immediate discharge into receiving waterbodies.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To have no more than one combined sewer overflow event per year as specified by the Regional Pollution Control Plan.**

And that this goal be achieved by utilising the following strategies:

- * *The Region should continue the construction of the CSO reservoirs as identified in the Pollution Control Plan.*
- * *The Environmental Services Department should continue to investigate additional means of reducing the adverse impacts of discharges of urban runoff into the waterbodies and watercourses of the Region.*

12. Recognising that:

- * A wide variety of advanced sewage treatment processes are being utilised in North America, Western Europe and the Far East on an experimental basis, and that some of these processes may one day be applicable in Hamilton-Wentworth. These experimental treatment processes include natural processes such as the use of artificial wetlands as well as more advanced forms of traditional chemical and physical processes.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To utilize the best available economically achievable technologies to reduce discharges of pollution to Hamilton Harbour and Cootes Paradise and to utilize where possible the by-products of the sewage treatment process.**

And that this goal be achieved by utilising the following strategy:

- * *The Regional Environmental Services Department should continue investigating, and implement where possible, improved means of dealing with the wastes discharged into the Regional sewer system.*

13. Recognising that:

- * That quality and quantity of surface waters is a function of land use and water management practices, pollution control, stormwater management, building codes and construction practices, and individual actions of the citizens of the Region.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To integrate planning, decision-making and implementation on a watershed basis in order to restore and maintain the desired water quality and flow characteristics of our surface waters.**

And that this goal be achieved by utilising the following strategies:

- * *To have the HRCA and other Conservation Authorities in the Region develop a community (watershed) consensus on the desired quality and quantity characteristics, and objectives for our surface waters and their uses, with the collaboration of municipal and provincial authorities.*

- * *To have the Region take the initiative with collaboration with other levels of government to develop formal and informal mechanisms to coordinate efforts of the multiplicity of agencies, industries, businesses and elected officials, to achieve the water quality and quantity targets we choose.*
- * *For the four Conservation Authorities and the Region to launch a coordinated effort with the other lead agencies to inform citizens of the objectives for the Region's watersheds and of the role that they can play in achieving those objectives, through the schools at all levels, and through information programs of all types.*
- * *For the Region to undertake a collaborative monitoring of these water systems that will allow us to make visible the progress we are making towards our objectives and targets.*

14. Recognising that:

- * The quality and quantity of the water in our streams, wetlands, the Harbour, and Lake Ontario, are largely a function of the health of the valleys through which they flow.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To preserve or enhance to their ecological potential the wetlands and stream systems that comprise the Region's watersheds (including the Harbour and Lake Ontario).**

And that this goal be achieved by utilising the following strategies:

- * *To protect and/or acquire valley lands and manage them in a way that protects water quality through public ownership in the hands of the Region and the Conservation Authorities.*
- * *For the Conservation Authority to work with riparian land owners in the watershed through stewardship agreements so as to encourage the maintenance of vegetative buffers alongside creeks, streams, and reservoirs, and to discourage activities that degrade water quality or threaten natural ecosystems associated with watercourses.*

- * *For the Region and Area Municipalities to use land-use controls to ensure that urban development does not take place in stream valleys or in areas immediately adjacent to streams. Vegetated stream buffers should be established and/or protected in areas adjacent to streams.*
- * *To lobby the Province to alter the tax structure in such a way as to provide the incentive for people to maintain significant portions of their properties as naturally-vegetated landscapes.*

15. Recognising that:

- * That suspended solids in the Region's watercourses and waterbodies result from runoff from construction sites and open agricultural fields, from a lack of vegetative buffers next to creeks and streams, and from certain types of stormwater management techniques.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To reduce suspended sediment loading in streams so as to reduce loadings of this material to Cootes Paradise and Hamilton Harbour to an overall average of 20,000 kg/d (averaged over several years and as specified in the Hamilton Harbour Remedial Action Plan) with special emphasis on Spencer Creek and Grindstone Creek because of the deleterious effect of siltation on the valuable marshlands in their estuaries.**

And that this goal be achieved by utilising the following strategies:

- * *The Region and Provincial ministries should insist on firm planning and engineering restrictions on all activities in the Region's watersheds that could lead to the deposition of suspended solids into watercourses. These activities would include the destruction of vegetation, grading and construction associated with new residential, commercial and industrial development, and operations associated with road and railroad construction.*
- * *The Region should encourage the Ministry of Agriculture and Food, the Ontario Federation of Agriculture, and the Conservation Authorities to promote soil conservation measures in agricultural operations in Hamilton-Wentworth.*

- * *The Area Municipalities and the Conservation Authorities should cooperate to establish more naturalized storm water management systems that improve infiltration rates and that reduce heavy storm water flows and associated erosion and sedimentation. The Region should attempt to coordinate these efforts and to disseminate information on improved methods of storm water management.*
- * *The Region should encourage public scrutiny of construction projects as they progress so as to help the community and the builders to maintain good erosion control.*
- * *The Region should adhere closely to provincial regulations and environmental assessment processes in their own programs.*

16. Recognising that:

- * Streams and stormwater carry trace metals and trace organic contaminants because these chemicals are improperly used/controlled or spilled in the watershed.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To virtually eliminate any contamination of our streams and surface waters by persistent toxic contaminants, and reduce even further the contamination of streams by other toxic contaminants and/or pathogenic organisms.**

And that this goal be achieved by utilising the following strategies:

- * *The Region should work with the Hamilton Harbour Commissioners, the Area Municipalities, local industry, and the Ministry of the Environment to ensure that a system is in place to effectively and efficiently deal with spills in the Harbour.*
- * *The Region should lobby the Province to restrict and reduce the use of pesticides by homeowners, businesses and farmers, and should reduce the use of pesticides on its own lands, so as to diminish the total amount of pesticides making their way into our watercourses and waterbodies.*

- * *The Region should lobby the Province to impose restrictions on the use of persistent toxic chemicals and to strictly enforce them. The Region should cooperate with local industries to find ways to transport, recycle, reuse and dispose of these chemicals without allowing any leakage into the Region's watercourses or waterbodies.*
- * *The Region should continue to operate, and expand, programs to provide advice to householders and businesses on how to reduce their dependence on toxic chemical use, and how to properly dispose of these materials if other uses cannot be found for them.*
- * *The Region should strongly encourage the Ministry of the Environment and the Ministry of Agriculture and Food to expand programs and initiatives to reduce the impact of farm wastes including animal manure on Regional streams, creeks and groundwater reserves, and to reduce the impact of animal watering or animal access onto streams.*

17. Recognising that:

- * Cootes Paradise, Hamilton Harbour, and the Grindstone Creek estuary are degraded marshes, interfering with the potential improvement in health, population balance, and overall size of the biological aquatic ecosystems.
- * Many of the Region's streams could be significantly improved as fishery resources if adequate protection and enhancement programs were established.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To restore adequate habitat for fish and aquatic birds to the level necessary to restore the populations to a healthy and productive state, as a resource and as an indicator of our ability to remediate water quantity and quality conditions in the Region's watercourses and waterbodies.**

And that this goal be achieved by utilising the following strategies:

- * *For the Region to support collaborative efforts led by the Federal Government and the Royal Botanical Gardens to restore marshes in Cootes Paradise and Hamilton Harbour.*

- * *For the Region to cooperate with the relevant Conservation Authorities and the Ministry of the Natural Resources in using land acquisition, stream rehabilitation projects, land-use controls, and any other policy tools to protect and enhance the Region's streams and fish habitat.*
- * *For the Region to play a more active role in protecting and enhancing the Region's streams and fisheries through the use of long-range land-use and services-provision (roads, sewers, water, etc.) planning. The Environmental Services and Planning and Development Departments should investigate and where feasible implement sub-watershed planning in cooperation with the Ministry of Environment, the Ministry of Natural Resources, and the relevant Area Municipalities.*
- * *The Area Municipalities should put more emphasis on stream/fisheries protection and enhancement objectives when preparing their storm water management programs and land-use plans. The Region and the Conservation Authorities should become more active in promoting stream/fisheries protection and enhancement objectives when dealing with the Area Municipalities and land-use/storm water management issues.*

18. Recognising that:

- * Treated sewage, sewage treatment plant bypass of partially treated sewage, and the sewage/stormwater mix in combined sewer overflows that discharge to Cootes Paradise, Grindstone Creek and especially Hamilton Harbour causes bacterial contamination that prevents swimming or relatively risk-free water sports, thus restricting recreational use of these water bodies; that these same sources cause Harbour waters to be contaminated with toxic contaminants; that these waters are over-fertilized with phosphorus to the extent that the Harbour is hyper-eutrophic, unnecessarily murky, lacking in oxygen in certain parts in the summer, and clogged with algae growth.
- * Urban runoff carried through storm water systems into Lake Ontario cause bacterial levels to increase in coastal areas after major precipitation events, temporarily increasing the health risk to swimmers using Lake Ontario beaches.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To ensure that the water quality in Hamilton Harbour and Lake Ontario is generally good, that the water is clear and that swimming is a safe activity.**

And that this goal be achieved by utilising the following strategies:

- * *The Region should continue on with its program to reduce or eliminate combined sewer overflows (CSOs) to Cootes Paradise and Hamilton Harbour with the highest priority to CSOs in Cootes Paradise and the western part of the Harbour.*
- * *The Region, the City of Hamilton, and the City of Stoney Creek should investigate, and where possible implement, means of reducing discharges of contaminants, organic material, and bacteria from storm water channels into Lake Ontario.*

19. Recognising that:

- * In the past too much emphasis was often placed on simply evacuating urban runoff as quickly and efficiently as possible to receiving water bodies, with little consideration given to the effect this type of storm water management strategy has on water quality or the state of natural ecosystem.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **That the natural quality and quantity of water flows resulting from precipitation not be significantly altered through changes to the landscape (destruction of vegetation, construction, grading, creation of impermeable surfaces) or stormwater management techniques.**

And that this goal be achieved by utilising the following strategies:

- * *The Area Municipalities and Conservation Authorities should, wherever possible, avoid channelling streams and creeks into concrete or other artificial-material aqueducts, sewers or ditches.*

- * *The Region, Conservation Authorities and Area Municipalities should require that new subdivisions incorporate the most advanced techniques available to increase infiltration on-site, and to create naturalized streams, creeks and ponds that can accommodate native fish species.*
- * *The Region, Area Municipalities, Conservation Authorities, Ministry of Natural Resources, and Ministry of the Environment should cooperate on establishing a new protocol for ensuring that new subdivisions do not adversely affect the water quality of nearby receiving watercourses or waterbodies as the result of the design of the storm water systems. Storm water systems should not significantly increase the amounts of chemical or biological contaminants, organic material, or suspended solids flowing into receiving watercourses, waterbodies, or wetlands.*

Municipal and Hazardous Waste Management And Contaminated Sites

20. Recognising that;

- * The Province favours a hierarchy of waste management as it applies to solid, liquid and hazardous wastes in this order of priority: waste reduction, reuse, and recycling, with disposal considered a last resort.
- * Each resident of Ontario produces about one tonne of waste annually.
- * About one-third of municipal waste is packaging.
- * Provincial targets for diversion of waste from disposal is 25% by 1992 and 50% by the year 2000.
- * The practices of waste reduction, reuse, and recycling conserve both natural resources and energy.
- * A combination of community participation and appropriate technology can contribute positively to the efficiency and operation of local waste reduction, reuse, and recycling, and composting programs.
- * Countries with the most stringent environmental controls and programs are amongst the most economically competitive nations in the world.

- * Effective waste management plans can save money for corporations through a reduction in tipping fees, reduced raw material costs, possible increased revenues through sales of byproducts, cleaner facilities and greater attention to housekeeping, and enhanced process control.
- * The strategy to source separate waste and divert separated waste to specialized end users is compatible with the development of such specialties and technologies within the Region.
- * The continued one-way use of natural resources cannot be supported or sustained. Sustainable development is possible only through an economy built on the recovery and reuse of materials and goods.
- * There are no ongoing collection or processing costs associated with the distribution and use of backyard composters, making backyard composting a most cost effective waste management strategy by reducing the burden of handling organic wastes, which represents up to 30 percent of household waste, on local systems.
- * Improperly disposed of, hazardous wastes can pollute soil, wells, septic systems and ground and surface waters, harm sewage treatment organisms, and injure garbage collectors and residents.
- * Successful recycling is a function of participation, collection and processing, economics, technology, marketing, and inter-governmental cooperation, such that the decision to include a material within the recycling program rests not merely with the technical ability to recycle that material but with the feasibility of doing so.
- * Currently, there is no direct financial incentive to encourage public adherence to or participation in waste reduction, reuse, and recycling initiatives.
- * The majority of solid, liquid, and hazardous waste continues to go to disposal.
- * The Region has a solid-waste by-law that allows the Region to restrict or ban the disposal of certain materials.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * The development of a Regional waste management plan with a focus on pollution prevention with a strategy consisting of 3 components being, in order of priority -
 - a) the reduction of waste going to the curb or down the sewer,
 - b) the diversion of waste for reuse or recycling,
 - c) as a last resort, and with the intent that there should be a very minute amount remaining after reduction, reuse, and recycling, the disposal of remaining waste that is neither reduced or diverted.
- * That Regional residents and business alike be educated to understand the full impact and the costs of waste generation, including a re-examination of what is considered "waste", and how waste can be reduced, and that residents and business be educated to impart a full and comprehensive understanding of waste management including the three "R"s, hazardous waste management, and the related conservation value of these principles.
- * That Provincial waste reduction targets be considered a minimum for the Region.
- * That the burden of cost for the management of waste be lifted from the taxpayer and placed equitably through the use of a user pay system on those responsible for the generation of waste throughout the Region.
- * That, regardless of population and community growth trends, that a financially self-sustaining waste management system be developed to accommodate and adjust to possible decreases and increases in waste generation in the Region.
- * That the concept of personal and corporate responsibility for waste production, and the concept of product stewardship, be adopted for practice by all those living or doing business in the Region.

- * That reuse and recycling options be made more accessible to users where such items are not covered by curbside programs in the Region.
- * That the Region should not become the final resting place for any waste material produced elsewhere.
- * That waste stream control be exercised and that the development of positive private and public waste recycling and reuse facilities within the Region be encouraged.

And that these goals be achieved by utilizing the following strategies:

- * *The Region should support Provincial initiatives to permit Regional administration of garbage collection and/or user pay systems, and that the Region should negotiate to assume garbage collection from the local municipalities in order to implement a user pay system, and/or*

the Region should develop and implement an information campaign in support of user pay by educating people about waste management costs and advocate the development of user pay garbage collection systems by the area municipalities , and/or

the Region should continue to develop the existing waste disposal system with respect to the user pay concept.
- * *A comprehensive public education campaign should be initiated that, among other things, would promote acceptance of a user pay system, and would enhance the public's understanding of waste and waste reduction, including hazardous wastes, and the importance of changing the consumer ethic to the conserver ethic. As part of this strategy, the Region should advocate the publication by the municipalities on their tax bills of waste management costs, and should consistently reinforce this message with waste reduction information.*
- * *The Region should develop and implement a comprehensive Waste Management Master Plan which incorporates waste reduction strategies such as the 3R's based on waste quantity and quality. This would include both municipal and industrial/commercial waste.*
- * *The Region should develop a firm purchasing policy supporting the purchase of goods and supplies containing post consumer content.*

- * *The Region should pass resolutions or expressions of concern on the matter of packaging and forward these to Provincial/Federal authorities within whose jurisdiction the issue lies. Given the passage of the Waste Management Act in the Provincial Legislature, the Region should, on a case by case basis, communicate to the Minister of the Environment those products the Region considers to pose waste management problems with the intention that the Ministry declare them as such under the revised Environmental Protection Act.*
- * *The Region should continue to support and advocate to business, industry and other levels of government the practice of product stewardship in which the cost of waste management is internalized in the price of products and packages.*
- * *The Region should encourage the Ministry of Municipal Affairs to empower municipalities to fulfil all their obligations with respect to comprehensive waste management.*
- * *The Region should establish a high tipping fee policy that makes attractive waste reduction and recycling options, and encourages the development of those options by private and public sectors, should be maintained.*
- * *The Region should establish a formal waste exchange to encourage the reuse and exchange of industrial by-products.*
- * *Where feasible alternatives exist, additional restrictions on, or bans of, certain materials from Regional facilities should be implemented.*
- * *The Region should actively attract specialized recycling and waste reduction industries and technologies.*

21. Recognising that;

- * *Collectively, seemingly small amounts of hazardous wastes represent large quantities when deposited in landfills, and can produce a toxic leachate as chemicals mix together with rain water, with the potential to seep into nearby groundwater.*
- * *Leachate collected from landfill site leachate collection systems may require treatment as a toxic waste.*

- * Agricultural processes, specifically intensive farming techniques requiring large quantities of fertilizer, pesticides and herbicides, negatively impact and threaten wildlife and people. This is a result of deteriorating water quality due to toxic chemical run-off into surface and groundwater systems.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **That the quality and toxicity of waste be given equal priority to the quantity of waste.**
- * **That the reliance on hazardous substances be reduced by substitution and more judicious use of these substances, where required, with the additional benefit of a reduction in the need for treatment and disposal of hazardous substances.**

And that these goals be achieved utilizing the following strategies:

- * *The Region should continue to build on and enhance existing solid, liquid and hazardous waste reduction and diversion programs including recycling, household hazardous depot and outreach programs, backyard composting, public education, and industrial/commercial/institutional waste reduction, recycling, and exchange programs.*
- * *The Region should pass a resolution endorsing the principle of virtual elimination of hazardous waste disposal, and follow up by asking industries to sign a "virtual elimination good neighbour agreement" committing to waste audits, zero discharge targets, and public consultation.*
- * *The Region should promote the phasing out of pesticides and herbicides, where possible, for both Regional applications and to other levels of government.*
- * *The Region should establish a formal waste exchange to encourage the reuse and exchange of industrial by-products.*

22. Recognising that;

- * A potential health threat is posed to the community by contaminated sites on which buildings are developed or from which contaminants migrate off-site.
- * Contamination left behind by industrial activities and landfill sites can threaten the health of individuals who purchase homes on or adjacent to old and/or redeveloped industrial sites and landfill sites.
- * The soils most suitable for landfilling are generally coincident with those best suited for farming.
- * That landfill sites constitute a controversial land use and in particular an undesirable use of both arable farm land and significant natural areas including the Niagara Escarpment.
- * The primary responsibility for contaminated site identification and clean-up rests with the Province with financial and technical support from the Federal Government.
- * There is an absence of municipal or Provincial control with respect to the landfilling of inert and construction waste on private property.
- * There is a lack of a mechanism by which illegal dumping can be reported to the appropriate authorities.

The Physical Services and Waste Management Group suggests the following goals:

- * **That sites not be developed or approved for development unless the site is deemed uncontaminated.**
- * **That no new sites are allowed to become contaminated. If, in certain highly exceptional cases, some contamination of soils or groundwater is unavoidable, all possible precautions must be taken to ensure that the contamination does not move off-site.**

And that this goal be achieved by utilizing the following strategies:

- * *Tenders by the Region for sewer, road or other types of work should be awarded only on verification that residues and debris will be brought to an approved site. Quantities could be monitored leaving the site through the use of bills of lading and this could be verified with what is received at the designated disposal site.*
- * *Regional and municipal comments regarding applications for Certificates of Approval for privately operated waste management facilities, which are referred to the area municipalities for comment by the Ministry of the Environment, should be coordinated to incorporate all issues and concerns associated with particular applications.*
- * *The Region should encourage the Province to take a more proactive role in identifying contaminated sites or to provide funding that would permit the Region to do so, to pass legislation requiring MOE approval for developments on potentially contaminated property prior to issuance of a building permit, and to consider the establishment of a fund for clean-up of sites for which there is no clear owner.*
- * *Developers applying for a rezoning, Official Plan Amendment, severance or subdivision involving lands once used for industrial, transportation or waste management uses should be required to obtain proof from the Ministry of the Environment that the site is not contaminated before permission is given by the Area Municipality and/or the Region.*
- * *The Region should lobby the Province to pass legislation requiring owners of a property to register any known contamination on site on property title(s).*

Air Quality

23. Recognising that:

- * Photochemical smog associated with emissions of oxides of nitrogen, ground level ozone and volatile organics that arise principally from motor vehicle exhausts is a major contributor to respiratory diseases and other health problems in the Region. In addition, these gases create social and economic consequences such as diminished agricultural production and tourism, excessive deterioration of buildings and other structures, and a general revulsion caused by odours and a reduced visibility.
- * The emission of large quantities of carbon dioxide, methane, halocarbons, radiatively active gases and nitrous oxide into the atmosphere will likely result in climatic changes that could affect global temperatures and thus have major impacts on precipitation, frost-free days and water levels in the surface waters of the earth.
- * A wide range of other air pollutants can be found at any given time that includes particulates containing heavy metals, dioxins, pesticides, furans, polyaromatic hydrocarbons and other air-borne pollutants that are toxic, carcinogenic, mutagenic or otherwise damaging to health.
- * Long-range pollutants including the chemicals that cause acid rain, pose a threat to the continued survival of important forests and woodlots, lakes and streams, and certain types of agricultural operations as well as the health of the Region's residents.
- * Depletion of the ozone layer is due to the release of chlorofluorocarbons (CFC's) that is resulting in increased incidences of skin cancers and cataracts and damage to agricultural crops and animals.
- * The lower part of the City of Hamilton and Area Municipalities are prone to temperature inversions that produce smog and trap other air borne noxious compounds because of lake effects and the Escarpment.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **The Region should have the best air quality of any major urban area in Ontario by the year 2000 as determined by the Ministry of the Environment.**

- * **The Region should lobby all levels of government to work together to institute a ban on the manufacture and use of CFC's by the year 2000 or earlier.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region should lobby the Federal Government to pursue more stringent domestic and international standards on emissions of substances into the atmosphere.*
- * *The Region should investigate making the licensing of commercial operations that use and repair air conditioners/refrigerators contingent upon their meeting the Provincial/federal requirements.*
- * *The Region should set up a small Regional Environmental Office to coordinate a local effort to ban CFC's.*
- * *The Regional Environmental Office should also be mandated to distribute educational materials, put on seminars etc. pertaining to air pollution and other environmental issues.*
- * *The Region and local school boards should undertake public education to promote means of reducing indoor and outdoor air, pollution from all sources.*

24. Recognising that:

- * As per capita motor vehicle use has increased dramatically over the past three decades, motor vehicle emissions have increasingly become an air quality issue.
- * The direct regulation of virtually all of the activities and emissions that are contributing to air quality problems is in the hands of the Provincial and Federal Government.

- * The Region is still capable of having a major impact on air pollution not through direct regulation, but through indirect influence. More specifically, there are three major ways the Region can contribute to improved air quality and reduced emissions of substances into the atmosphere:
 - a) The Region can lobby other levels of government;
 - b) The Region can bring about reduced emissions through improved land-use and transportation planning;
 - c) The Region can change the practices of its employees, subcontractors and operations.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **That low-polluting, energy efficient forms of transportation will steadily displace more heavily-polluting motor vehicles as the standard means of people and goods-movement in Hamilton-Wentworth.**
- * **To educate the Region's employees and citizens about the ways in which motor vehicles and equipment can be operated to minimize energy use and air emissions.**
- * **Any new land-use plans be thoroughly reviewed in accordance with principles of full cost accounting that includes the minimization of emissions into the air by motor vehicles and industry.**
- * **Within five years, 75% of all new residential units in subdivisions approved by the Region should be in integrated communities in which motor vehicles are not required by residents to obtain basic requirements. Such communities would have shopping and recreation within a fifteen minute walk of residential units.**

And that these goals be achieved by utilizing the following strategies:

- * *A Transportation Plan should be developed for the Region that promotes the use of low-polluting, energy efficient forms of transportation and which would have the flexibility to integrate GO Transit, HSR, bicycles, autos and pedestrians.*

- * *The Region should establish dedicated lanes for bikes and buses on major streets in the City.*
- * *The Region should establish bicycle paths and routes throughout the Region.*
- * *The Region should promote staggered work hours (particularly for its own employees) for less congestion during traditional rush hours.*
- * *The Region should lobby the Province to institute a means of curtailing motor vehicle use during high pollution episodes.*
- * *The Region should work to ensure that all Regional, Area Municipality, school board, and other public vehicles are equipped with the most advanced emission control equipment available.*
- * *The Region should lobby the Province to enforce emission standards strictly for private vehicles and for refuelling such vehicles.*
- * *The Region should encourage ride-sharing in automobiles through the use of reduced parking rates for cars with at least one passenger (in addition to the driver).*
- * *The Region and Area Municipalities should lobby the Province for the right to charge higher mill rates on parking lots.*
- * *The Region should undertake trial tests using more flexible forms of public transportation to and from certain areas, e.g. large vans for pick-up and drop-off trips, etc.*
- * *The Region should ensure that Industrial-Business Parks can be retrofitted with railway spur lines so that when train transport becomes more economically competitive, industrial lots will be adequately serviced.*
- * *The Region should require all Regional road engineers and planners be knowledgeable in the area of air pollution sources, the environmental, social and economic costs therefrom, and the means of reducing such discharges.*
- * *The Region and the Area Municipalities should include in their approvals process for new development a procedure that incorporates sustainable development principles (when adopted by Council) that accounts for air emissions and energy efficiencies.*

- * *The Region should hold competitions and design charettes for urban design projects that would indirectly lead to improved air quality in Hamilton-Wentworth.*
- * *The Region should undertake an educational program to discourage practices such as idling vehicles unless absolutely necessary, e.g. during winter months.*

25. Recognising that:

- * Industry and the electrical utilities remain major contributors to air pollution.
- * The Region's efforts to promote Hamilton-Wentworth as a desirable place to establish a business have been hampered by perceptions of non-residents that Hamilton is a dirty, grimy industrial city.
- * The hidden economic and social costs of air pollution are very high and involve the medicare system, lost productivity and tourism.
- * Quality of life in a community is diminished by smog that reduces vision and eliminates scenic views.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **The Region should honour those corporate citizens who have made major improvements in air pollution control and energy efficiency.**
- * **The Region should attract new businesses to Hamilton-Wentworth that produce little or no emissions of substances into the atmosphere, and encourage businesses that already located here to reduce such emissions.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region should partially fund a chair at McMaster University in air pollution reduction technology.*

- * *The Region should give awards annually to businesses that dramatically reduce their emissions of substances into the atmosphere, produce new technology that is capable of reducing air pollution, or in some other way improves local air quality or contributes in a significant way to the protection of the atmosphere.*
- * *The Region and/or Area Municipalities should pass by-laws restricting dust emissions from construction sites, landfill sites, etc.*
- * *The Region should phase out incineration as a waste management method.*
- * *The Region should ensure that all contractors and subcontractors working for the Region have very stringent controls in place to stop dust from being allowed to become airborne.*

26. Recognising that:

- * Human health problems are being encountered in modern buildings in attempts to conserve energy through the generation of pollutants such as cigarette smoke, compounds in carpets, insulation, and synthetics generally, as well as radon gas emitted from soils into basements, etc.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goal:

- * **To monitor air quality in buildings suspected of "sick building syndrome" and where required to reduce levels of concentration of pollutants to acceptable values.**

And that this goal be achieved by utilizing the following strategies:

- * *The Region should ensure adherence to requirements of adequate fresh air exchanges in buildings.*
- * *The Region should undertake audits of its premises, equipment and activities to ensure all reasonable efforts are being made to ensure high air quality.*
- * *The Region should introduce indoor plants and new filtration technologies into civic buildings and offices operated by the Region.*

- * *The Area Municipalities should strictly enforce their no-smoking by-laws.*

27. Recognising that:

- * Trees, vegetative cover and green space generally act to filter out impurities in the air and increase the amount of oxygen available to residents of the Region.
- * The growth of vegetation, and trees in particular, removes carbon dioxide from the atmosphere and thereby slows down the development of the "greenhouse effect".

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **To increase the number of trees found in the Region by 50% by 2000.**
- * **To educate the public-at-large about the value of preserving green space and about the value of indigenous species of plants.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region should implement a plan to establish a minimum amount of vegetation on each residential lot in H-W.*
- * *The Region should strive to hold itself up as a model in the use of low maintenance ground cover and ecological landscaping in areas of control.*
- * *The Region should prepare a detailed strategy of tree planting and tree protection to improve air quality that would include the preparation, passing and enforcement of a new Regional Tree Protection By-law.*

Energy Use

28. Recognising that:

- * The continued use of carbon-based energy sources is leading to a build-up of carbon dioxide in the atmosphere that may constitute one of the most significant threats to the continued operation of the Earth's ecosystems ("Greenhouse Effect" and associated climatic and atmospheric changes);
- * Significant savings in energy use can be attained relatively easily using conservation measures that are associated with slight alterations to day-to-day practices and existing technologies used in households and businesses. Many areas of North America, Eastern Asia and Western Europe have managed to significantly reduce the amount of energy needed to conduct business and household activities without reducing their inhabitants' quality of life or productivity;
- * The burning of fossil fuels involves more costs than those simply associated with the extraction, refining, and distribution of these fuels (i.e. the cost of the fuel at the pump). Additional "hidden costs" include those associated with climate change, the degradation of the atmosphere and ground-level air quality, and increased demands on the health-care system.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **That the current reliance of Hamilton-Wentworth's municipal, industrial, commercial, institutional and residential sectors on traditional energy sources be reduced by 20% by the year 2005, and by 50% by 2020. This reduction will be achieved through conservation measures, an increased reliance on alternative energy sources and alterations in methods of transportation and production.**
- * **That all new and renovated buildings and structures in Hamilton-Wentworth be constructed so as to conserve the use of energy and to effectively employ passive solar energy where conditions allow.**

- * **That the Region undertake programmes to inform its citizens of the benefits and methods for conserving energy, achieving efficiencies and employing alternative energy sources.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region should lead by example in the area of building/equipment energy efficiency. The most energy efficient facilities and equipment should be purchased or leased when the Region acquires new office space, capital facilities, machines, lighting systems or office equipment.*
- * *The Region should advertise the availability of grants offered through agencies such as Ontario Hydro for energy efficiency retrofits or upgrades in commercial/industrial buildings with consideration given to further subsidize such programmes.*
- * *The Area Municipalities should investigate altering the building code requirements in their jurisdictions to increase the amount of insulation required in new buildings and the Region should lobby the Province to improve Provincial Building Code with regard to energy efficiency.*
- * *The Area Municipalities and Region should place an increased emphasis on promoting energy efficiency in new housing (access to public transit, solar orientation, use of vegetation to moderate climate etc.) when reviewing applications for subdivision approval, Official Plan Amendments, Zoning By-Law Amendments, and variances.*
- * *A Regional Environmental Office should be established within three years that would be responsible for distributing information on alternative energy use, energy conservation measures, energy efficient equipment/machinery, and building designs that reduce long term energy use. Such an office could be jointly financed with the Province and/or Federal Government.*
- * *Hamilton Hydro and other electrical utilities in the Region should promote the conservation of energy and use of alternative energy sources by using more peak-hour pricing for electricity, by providing financial incentives for energy use reduction, and by distributing information about means of energy use reduction.*

29. Recognising that:

- * Motor vehicle emissions constitute the largest single contribution to air pollution from any source in many cities of the Western World including the City of Hamilton.
- * About 70% of household energy use is related to transportation, the principle mode being by automobile which in turn is several times more consumptive than is the utilization of public transit.
- * The use of fossil fuel powered road vehicles as a means of transportation of goods and people continues to grow despite the negative aspects associated with this form of transportation (increasing levels of congestion, high levels of air pollution and noise, and accident fatalities/injuries).
- * An increased reliance on the automobile has resulted in a steady decrease in public transit use in the Region; in 1961, HSR reported an annual total of almost 32,000,000 trips on its city and regional routes, a statistic that declined to approximately 27,400,000 in 1977 and roughly 25,500,000 in 1986, even though during the same period the Regional population increased from 359,000 (1961) to 409,000 (1976) to 423,000 (1986).
- * The use of different fuels for autos, trucks and buses could contribute significantly to an improvement in air quality in the Region. Alternative energy sources include ethanol, methanol, hydrogen, propane, natural gas and electric batteries.
- * Light rail transit and trains operating on an inter-city basis are the most efficient forms of transportation with respect to energy consumption when density and trip destination conditions are such as to attract an adequate ridership.
- * The fact that the City of Toronto has adopted a target of 20% reduction in CO₂ emissions by the year 2005 is indicative of a trend in public opinion to enact measures that curb fossil fuel consumption in Canadian cities.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **That 60 percent of work-trips should be made using transportation modes other than the private automobile by the year 2020;**
- * **That at least 15% of the energy required to power motor vehicles in Hamilton-Wentworth in the year 2005 be provided from alternative sources, and that the comparable minimum figure for 2020 be 50%;**
- * **That all possible efforts be made to revitalize the use of railway transportation as a means of moving people and goods.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region, through the HSR, should continue with its program of changing from conventional diesel buses to public transit vehicles powered by alternative fuels.*
- * *The Region, through the Roads Department and Planning and Development Department, should ensure that the Region's roads are as efficient as possible in terms of energy use by automobile and truck traffic. The Area Municipalities should ensure that stop signs are not used as a means of speed control, since increased levels of stopping and starting significantly increases fuel consumption and emissions into the atmosphere of engine exhaust, brake-lining particles and particles from tires.*
- * *The Region should lobby the Province to impose a level of fuel tax used in transportation that is commensurate with the notion of full cost accounting, which would include the cost of maintaining the road network, costs associated with environmental damages incurred during the extraction, refining, and transportation of fuel, air pollution costs, and indirect health care costs; and that legislation be imposed on manufacturers of transportation vehicles to require that they be responsible for the adequate disposal of these vehicles once these products and their components have reached the end of their useful lives.*

- * *The possible expansion of the GO bus and train system and of current HSR bus or other transit service to presently unserved areas should be investigated; also, the Region should investigate ways in which bicycles can be transported on HSR vehicles with their owners to make cycling a more viable part of the transportation system. In addition, the Region should begin long-range planning (acquisition of rights-of-way, compatible land-use planning, etc.) for a trolley-car system that could in the 21st Century traverse the urbanized parts of Hamilton-Wentworth, the character of which would have the needed densities of population to justify its use.*

30. Recognising that:

- * Economies that are relatively energy efficient, such as those found in Switzerland, Denmark and Japan, have shown excellent levels of productivity; the former group of countries has not suffered from a diminished standard of living as a result of this significantly lower per-capita energy use.
- * Major improvements in alternative energy technologies have led to dramatic reductions in the cost of producing power, and opportunities now exist for the growth of new industries in fields such as photovoltaic cell manufacturing in those parts of the country that offer business-university research linkages, a high quality education/worker-training system, adequate infrastructure, and ready access to large markets.

The Physical Services and Waste Management Group suggests that the Task Force adopt the following goals:

- * **That industrial processes in the Region become as energy efficient as the most efficient processes found in Western Europe and the Far East by the year 2005.**
- * **That the Region's industrial and commercial sectors evolve into extremely energy-efficient and environmentally-benign entities.**

And that these goals be achieved by utilizing the following strategies:

- * *The Region and the Province and/or Federal Government should combine with local industry to fund an engineering research "chair" at McMaster University related to solar energy/wind power, energy conservation strategies or alternative energy sources. The above bodies should also combine with Mohawk College to establish and fund a programme whose aim it is to provide training in the use of alternative energy systems, conservation methods, or in the design and production of buildings/equipment that are energy efficient.*
- * *Local business and industry representatives and groups (Chamber of Commerce, etc.) should be involved in efforts to promote energy efficiency and conservation, and a gradual transition to alternative energy sources. The Region's Economic Development Department should investigate the possibility of establishing a private sector umbrella organisation to coordinate educational and cooperative efforts.*

